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ENVIRONMENTAL STUDY REPORT

URBAN M
GOVERNMENT DOCUMENTS

Glancaster Road, Stone Church Road
and Susan Drive Extensions

Report prepared for

THE REGIONAL MUNICIPALITY

OF

HAMILTON-WENTWORTH

URBAN M
GOVERNMENT DOCUMENTS

March 1994

uma

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ENVIRONMENTAL STUDY REPORT

GLANCASTER ROAD, STONE CHURCH ROAD AND SUSAN DRIVE

Prepared for:

The Regional Municipality of Hamilton-Wentworth
Roads Department

Prepared by:

UMA Engineering Limited
5080 Commerce Boulevard
Mississauga, Ontario
L4W 4P2

March 1994

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GLOSSARY

Class EA	Municipal Engineers Association Class Environmental Assessment for Municipal Road Projects
EA	Environmental Assessment
EA Act	The *Environmental Assessment Act*, 1975, and amendments thereto
ESR	Environmental Study Report
ESA	Environmentally Sensitive Area
ha	hectare
HSR	Hamilton Street Railway
km	kilometre
kv	kilovolt
m	metre
LACAC	Local Architectural Conservation Advisory Committee
MCC	Ministry of Culture and Communications
MEA	Municipal Engineers Association
mm	millimetre
MNR	Ministry of Natural Resources
MOEE	Ministry of Environment and Energy
OMB	Ontario Municipal Board
PIC	public information centre
ROW	right-of-way
the Region	Regional Municipality of Hamilton-Wentworth

EXECUTIVE SUMMARY

Introduction

This Executive Summary of an Environmental Study Report (ESR) outlines the planning and decision making process associated with determining road requirements in the Meadowlands area of Ancaster, in particular, extensions of Glancaster Road, Stone Church Road and Susan Drive. The project followed the Class EA process as a Schedule C activity.

Background

The Region received EA approval for the Red Hill Creek Expressway in 1985. This approval included the closure of Upper Horning Road at the Expressway. The closure of Upper Horning Road was confirmed by Regional Council at its meeting of October 6, 1992. Upper Horning Road is presently scheduled to be closed in 1995.

The closure of Upper Horning Road on both sides of the Red Hill Creek Expressway will limit access to and from the Gurnett neighbourhood, located south of the Expressway. Additional access points to the Regional and Provincial road network are required for adequate traffic service, including acceptable access for emergency vehicles.

The purpose of the project is to provide an alternative access for traffic and emergency services to and from the Gurnett neighbourhood, due to the proposed closure of Upper Horning Road at the Red Hill Creek Expressway in 1995, and to provide the basis for Secondary Planning in the Meadowlands area, in the Town of Ancaster. Although Upper Horning Road is designated a local road by the City of Hamilton, it is currently functioning as a Regional arterial road as it connects two regional arterials, Stone Church Road and Mohawk Road. An additional purpose of the project is to provide a more logical continuation of the arterial road system.

Project History

A brief chronological summary of events leading to the production of the ESR follows:.

Early 1980's
- The Ontario Municipal Board (OMB) approved the designation of the Meadowlands for residential (population 20,000), commercial and industrial use. The Town of Ancaster Official Plan also showed future road extensions of Susan Drive, Stone Church and Glancaster Roads as well as acknowledging the Expressway connections.
- The Regional Official Plan has designated extensions to Stone Church and Glancaster Roads.

1985	- Approval of the Red Hill Creek Expressway and closure of Upper Horning Road.
1991	- Roads Department begins construction on E-W Mountain section of the Red Hill Creek Expressway. - The Town of Ancaster is informed that the Region must carry out a Class EA to determine the location of the Meadowlands roads.
early 1992	- Region holds a public meeting in Gurnett and Fessenden neighbourhoods to discuss closure of Upper Horning Road. - Council confirms the plan to close Upper Horning Road as per the EA approval for the Red Hill Creek Expressway.
1992	- Regional Roads Department begins the Class EA process and sets up a study team.
Oct. 1992	- The Region advertised the Public Information Centres (PICs) in several newspapers and delivered flyers to over 3,000 residents.
Winter 1992/93	- Region reviews the comments obtained from the PICs, meetings with the property owners in the Meadowlands, agencies and staff.
May 1993	- Letters are sent to all members of the public who wrote comments to the Region.
June 1993	- Two PICs are held to show the routes that have been evaluated and the route that the Regional Roads Department recommends. Notices are placed in newspapers and are mailed to the area residents and property owners in Hamilton and Ancaster.
Summer 1993	- Region reviews the comments obtained from the PICs, meetings with the property owners in the Meadowlands, agencies and staff. - Region begins a Transportation Plan that will be reviewing the criteria used to designate Regional Roads; decision is made to request approval for Stone Church to Golf Links extension only - Letters sent to public who provided comments at previous PICs.

Sept. 1993	- Two PICs are held to show the route that the Regional Roads Department recommends and to explain the reasons. Notices are placed in newspapers and are mailed to the area residents and property owners in Hamilton and Ancaster. - Region reviews the comments obtained from the PICs, meetings with the property owners in the Meadowlands, agencies and staff. The Roads Department then meets individuals or groups that still have concerns.
Nov. 1993 to Feb. 1994	- ESR is prepared. Refinements to the recommended roadway are made following further meetings with residents.

Project Organization

The Project Team consisted of members from the Regional Municipality of Hamilton-Wentworth; the consulting firm of UMA Engineering Ltd. as prime consultant undertaking the engineering and environmental assessment, beginning in January, 1993; and, several additional consultants possessing expertise in specialized areas:

The project was coordinated by the Special Projects Office of the Regional Roads Department. In addition, a Study Team was established by the Region to provide input and review throughout the study. The study team included key agencies involved in the planning of new roads as well as agencies requesting involvement in the project. Members included:

- Hamilton Street Railway
- Local Planning Branch, Region Hamilton-Wentworth
- Regional Planning Branch, Region of Hamilton-Wentworth
- Roads Department, Region of Hamilton-Wentworth
- Environmental Services Department, Region of Hamilton-Wentworth
- Planning Department, Town of Ancaster
- Engineering Department, Town of Ancaster
- Planning Department, Township of Glanbrook
- Ministry of Natural Resources, Cambridge District
- Hamilton Region Conservation Authority
- Ministry of Culture, Tourism & Recreation

Review Agency and Public Consultation

Review agency and public consultation was an integral part of the development and evaluation of the various alternatives. The public consultation program and associated inputs to the process and evaluation included newspaper advertisements, three rounds of Public Information Centres, land owner meetings and one-on-one meetings with residents.

Existing Features

Identification of the existing conditions in the study area was needed to assess the potential impacts of the various alternatives under consideration. Of particular importance were the identification of the natural environmental features as the study area contained an Environmentally Sensitive Area (ESA) (regionally significant), a Class 3 Wetland (provincially significant) and a deer wintering yard. Current infrastructure and planning proposals were also considered.

Alternative Solutions

The EA evaluation procedure dictates an evaluation of alternative solutions to the undertaking. Four alternative solutions to the problem were identified. These were:

- *Alternative 1:* *Do Nothing*
- *Alternative 2:* *Widen or Improve Existing Road*
- *Alternative 3:* *Limit Growth*
- *Alternative 4:* *Provide New Roads*

Following a review with the public, agencies and landowners an evaluation resulted in the option of new roads in the Meadowlands being selected as the recommended strategy.

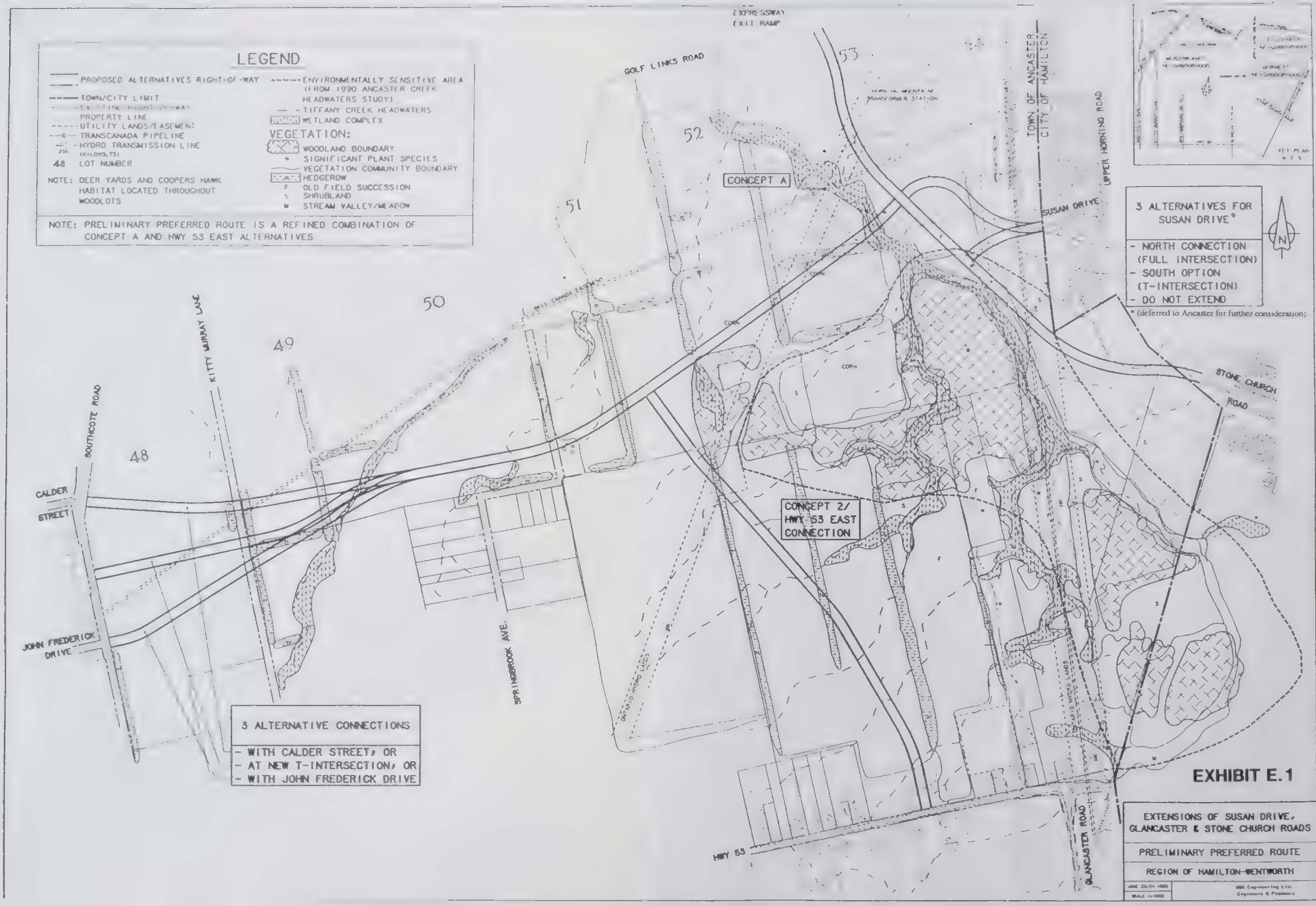
Alternative Route Locations

In Phase 2 of the EA process alternative route locations were identified, impacts assessed and the routes evaluated to arrive at a preferred overall route network in the Meadowlands.

An array of route options were considered. The options were derived to take into account the environmental information with regard to the natural, technical, socio-economic and cultural environments as it became available. The alignment documented in the draft Meadowlands Secondary Plan was not considered further because it was developed prior to any environmental data being collected and did not minimize impacts on the wetland and ESA.

Summary of the Preliminary Preferred Route Network

The routes were evaluated for east-west and north-south options leading to a preliminary preferred route network. This route network is shown in Exhibit E.1. This route does not give any preference to the westerly connection at Southcote Road or a Susan Drive alternative.



LEGEND
PROPOSED ALTERNATIVES RIGHT-OF-WAY
TOWN/CITY LIMIT
EXISTING RIGHT-OF-WAY
PROPERTY LINE
UTILITY LANDS/EASEMENT
TRANSCANADA PIPELINE
HYDRO TRANSMISSION LINE (KILOVOLTS)
230
48 LOT NUMBER
NOTE: DEER YARDS AND COOPERS HAWK HABITAT LOCATED THROUGHOUT WOODLOTS
ENVIRONMENTALLY SENSITIVE AREA (FROM 1990 ANCASTER CREEK HEADWATERS STUDY)
TIFFANY CREEK HEADWATERS
WETLAND COMPLEX
VEGETATION:
WOODLAND BOUNDARY
SIGNIFICANT PLANT SPECIES
VEGETATION COMMUNITY BOUNDARY
HEDGEROW
F OLD FIELD SUCCESSION
S SHRUBLAND
M STREAM VALLEY/MEADOW
NOTE: PRELIMINARY PREFERRED ROUTE IS A REFINED COMBINATION OF CONCEPT A AND HWY 53 EAST ALTERNATIVES
EXPRESSWAY EXIT RAMP
GOLF LINKS ROAD
53
52
51
50
49
48
CONCEPT A
TRANSFORMER STATION
TOWN OF ANCASTER
CITY OF HAMILTON
UPPER HORNING ROAD
SUSAN DRIVE
3 ALTERNATIVES FOR SUSAN DRIVE*
- NORTH CONNECTION (FULL INTERSECTION)
- SOUTH OPTION (T-INTERSECTION)
- DO NOT EXTEND
* (deferred to Ancaster for further consideration)
N
KEY PLAN N.T.S.
BELL CANADA EASEMENT
CORN
STONE CHURCH ROAD
KITTY MURRAY LANE
SOUTHCOTE ROAD
CALDER STREET
JOHN FREDERICK DRIVE
SPRINGBROOK AVE.
CONCEPT 2/ HWY 53 EAST CONNECTION
ONTARIO HYDRO LANDS
3 ALTERNATIVE CONNECTIONS
- WITH CALDER STREET, OR
- AT NEW T-INTERSECTION, OR
- WITH JOHN FREDERICK DRIVE
HWY 53
GLANCASTER ROAD

EXHIBIT E.1

EXTENSIONS OF SUSAN DRIVE, GLANCASTER & STONE CHURCH ROADS

PRELIMINARY PREFERRED ROUTE

REGION OF HAMILTON-WENTWORTH

The public and review agencies were overwhelmingly in favour of the recommended route network. Some reservations were expressed by certain landowners as the alignment does not reflect land negotiations for certain land purchases and exchanges that had transpired following publication of the initial secondary plan network.

The preferred network reflects the main public and agency concern which was that impact on the ESA and wetlands be minimized.

Timing of the Preferred Network

At this point in the study, the timing and need of the various road segments comprising the preferred network (Concept A) was reexamined. The Region is currently undertaking a Regional Transportation Plan (completion anticipated for 1994) that will identify and assess Regional transportation needs and the criteria used to assess the designation of Regional roads. The study will provide the basis for deciding the need for Regional versus Town roads in the Meadowlands area. Until this Plan is completed, it was decided that only one part of the preferred network will go forward into design and construction and hence completion of an ESR. The EA process for the remainder of the preferred network will be completed when the jurisdiction and timing of need of each road segment is apparent.

Conclusions

The following lists the main conclusions arising out of this environmental assessment study:

1. The extension of Stone Church Road to Golf Links Road interchange (Concept A) is the preferred scheme at this time.

2. The EA process for the remainder of the preferred network (see Exhibit E.1) will be completed when the jurisdiction and timing of need is apparent (which will become clear upon completion of the Regional Transportation Plan). It should be noted that there is no immediate need from the Region's perspective to establish this part of the road network in the Meadowlands. The network will be finalized through a concurrent Secondary Planning and Environmental Assessment study.

3. The Susan Drive extension has been deferred to the area municipalities for further consideration as it is not needed for emergency services access or for Regional Road needs.

The Recommended Roadway Design

Finalizing Location

The are no preliminary roadway design alternatives for this link due to the constraints on both sides of the proposed roadway. The road must:

- not interfere with existing housing to the east (residences on Elodia Court);
- be directed away from the ESA and wetland (as much as possible) on the west side of the road; and,
- avoid the Hydro towers.

The recommended roadway alignment satisfies these criteria and minimizes impacts.

Following receipt of the input from the general public and landowners, and consultation with interested review agencies, overall support for the preferred preliminary design was confirmed.

Notwithstanding the above, residents of Elodia Court subsequently raised concerns via their ward Councillors. The Region also agreed to meet with Elodia Court residents to discuss their concerns and determine if they could be addressed.

In early 1994, two meetings were held with the two local Councillors and residents of Elodia Court were held. At these meetings, Regional staff committed to providing landscaping as a visual buffer between the road and the residents property and also to move the roadway a further 10 to 15 metres away from the homes in order to minimize any noise intrusion.

Finalized Design

The selected design for the extension of Stone Church Road is shown in Exhibit E.2. It reflects the shift in horizontal alignment made to address the concerns of Elodia Court residents.

Initially, the section of Stone Church Road from Golf Links Road to the new intersection at Old Golf Links Road (200 m) will be a four lane road having an urban cross-section. The section of Stone Church Road from the new intersection at Old Golf Links Road to the connection at Stone Church Road is a 1.2 km two lane road with an urban cross-section.

In the design and assessment of impacts and mitigation, allowance has been made for the following future widenings:

- 5 lanes between Golf Links Road and the future Meadowlands Road; and

- 3 lanes (local widenings for left turns) between the future Meadowlands Road and the existing Stone Church Road.

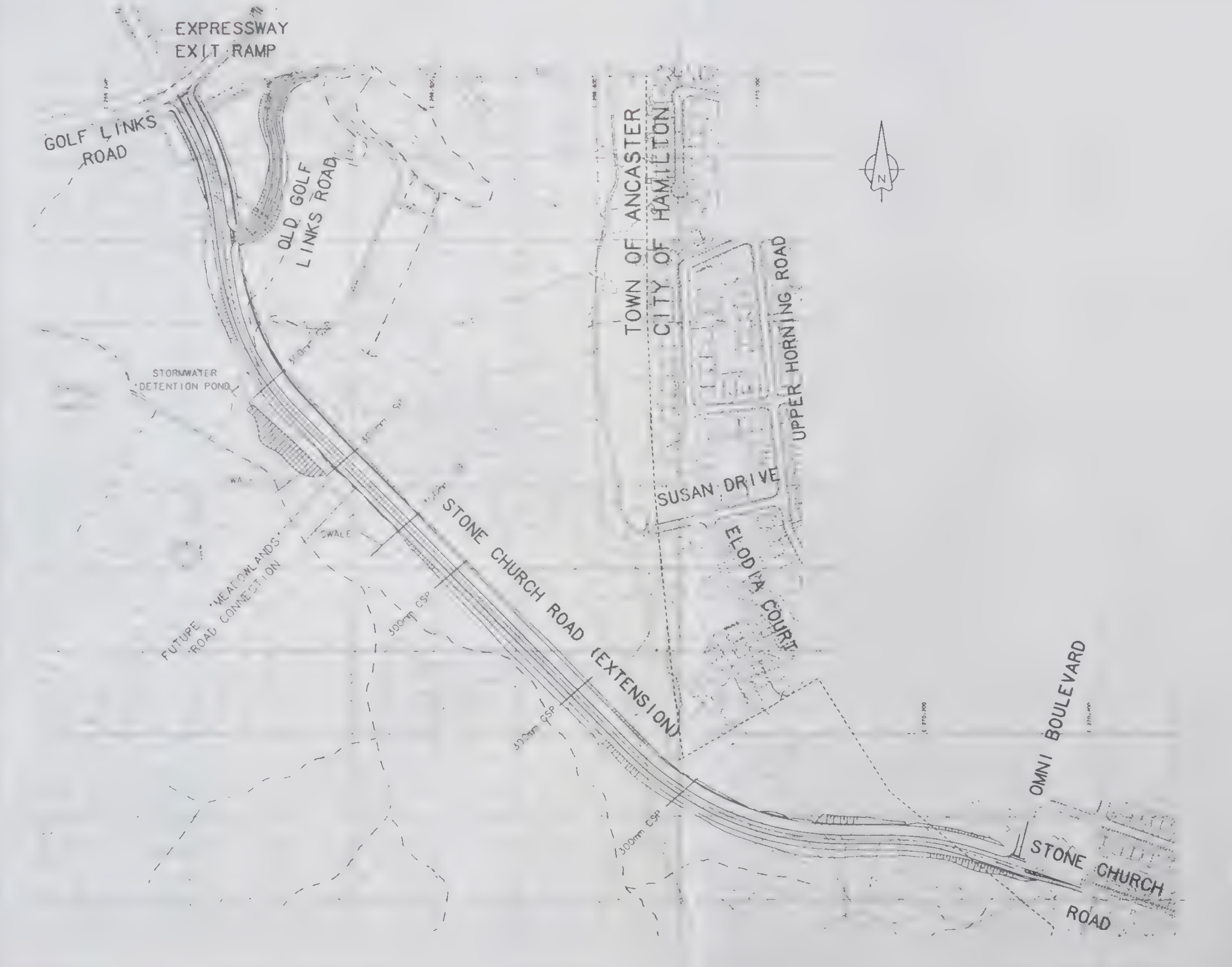


EXHIBIT E.2

EXTENSIONS OF SUSAN DRIVE,
GLANCASTER & STONE CHURCH ROADS

RECOMMENDED PRELIMINARY DESIGN

REGION OF HAMILTON-WENTWORTH

uma
UMA Engineering Ltd.
Engineers & Planners

The Town of Ancaster is responsible for providing sidewalks and illumination. The roadway cross-section allows for the provision of bicycle lanes.

A 400 mm watermain will be included along the whole length of the Stone Church Road extension.

The following programme for construction of the Stone Church Road extension is planned.

- property acquisition - 1993/1994
- detailed design - 1994
- construction - 1995

A preliminary cost estimate for the construction of the road is $1.3 million.

Filing of the ESR

This ESR will be filed with the Clerk's Offices of both the Region of Hamilton-Wentworth and the Town of Ancaster. Review copies will be available at the Clerk's Offices, the City of Hamilton Central Library and Terryberry Branch and the Ancaster Public Library. The general public will be notified of the completion and filing of this ESR by newspaper notices in the Hamilton Spectator, Hamilton Mountain News, and the Ancaster News. Direct notice will be made to all potentially affected review agencies and to those individuals who previously expressed interest in or asked to be kept informed of the status of the project. A review period of not less than thirty (30) days will be provided, during which comments will be received from interested parties, review agencies, and the public.

Concerns raised during the review period will be addressed by the Region. Any changes made during the review period as a result of discussions with agencies or the public will be documented as an addendum to the ESR, if appropriate. Should significant concerns remain unresolved, then a request can be made to the Minister of Environment and Energy to have the project bumped-up to an Individual EA. If there are no bump-up requests or outstanding issues, then the project may proceed to the final phase of the Class EA process, which includes detailed design and construction.

1.0 INTRODUCTION AND BACKGROUND

1.1 Environmental Study Report

All municipal road projects are subject to the *Environmental Assessment Act* (*EA Act*). The requirements of the *EA Act* can be met by following the Municipal Engineers Association (MEA) Class Environmental Assessment (Class EA) for Municipal Road Projects which was approved in 1987, and revised in June 1993, for projects of this type. Details of the Class EA process are provided in Section 2.1.

An Environmental Study Report (ESR) documents the Class EA process followed for a project. In general, it includes discussions on the following:

- the purpose and history of the project;
- the project team and schedule;
- the existing and future natural, social, cultural, economic and technical conditions in the project area;
- the planning alternatives and alternative design concepts considered and associated impacts and evaluation;
- a description of the recommended alternative and associated potential effects and mitigation measures; and,
- the maintenance, operation and monitoring aspects of a project (including expected environmental effects and proposed mitigation measures).

This ESR, a requirement of the Class EA process, documents the planning and design process conducted for potential road extensions to Glancaster Road, Stone Church Road and Susan Drive.

The ESR will be filed at the Clerk's Offices of both the Region of Hamilton-Wentworth and the Town of Ancaster. Review copies will be available at the Clerk's Offices, the City of Hamilton Central Library and Terryberry Branch and the Ancaster Public Library. All parties previously expressing interest will be notified directly by letter regarding the completion of the ESR. An announcement of its completion will be placed in local newspapers. A review period of at least thirty days will commence, during which comments will be received from interested review agencies and the public.

Concerns raised during the review period will be addressed by the Regional Municipality of Hamilton-Wentworth (the Region). Any changes will be documented in an addendum to the ESR. Should significant concerns remain unresolved, then a request can be made to the Minister of the Environment and Energy to have the project "bumped-up" to an Individual EA. If there are no bump-up requests made, and there are no remaining unresolved issues prior to the end of the 30 day review period, then the project may proceed to design and construction.

1.2 Purpose of Project

The Region received EA approval for the Red Hill Creek Expressway in 1985. This approval included the closure of Upper Horning Road at the Expressway (general study area shown in Figure 1.1). The closure of Upper Horning Road was confirmed by Regional Council at its meeting of October 6, 1992. Upper Horning Road is presently scheduled to be closed in 1995.

The closure of Upper Horning Road on both sides of the Red Hill Creek Expressway will limit access to and from the Gurnett neighbourhood, located south of the Expressway. Additional access points to the Regional and Provincial road network are required for adequate traffic service, including acceptable access for emergency vehicles.

The purpose of the project is to provide an alternative access for traffic and emergency services to and from the Gurnett neighbourhood, due to the proposed closure of Upper Horning Road at the Red Hill Creek Expressway in 1995, and to provide the basis for Secondary Planning in the Meadowlands area, in the Town of Ancaster. Although Upper Horning Road is designated a local road by the City of Hamilton, it is currently functioning as a Regional arterial road as it connects to Mohawk Road (Regional arterial). An additional purpose of the project is to provide a more logical continuation of the arterial road system.

1.3 Project History

A brief chronological summary of events leading to the production of this ESR follows:.

Early 1980's

- The Ontario Municipal Board (OMB) approved the designation of the Meadowlands for residential (population 20,000), commercial and industrial use in the Town of Ancaster (the Town) Official Plan. The Town Official Plan also showed future regional roads including the extension of Stone Church Road and Glancaster Road.
- The Regional Official Plan has designated extensions to Stone Church Road and Glancaster Road. The extensions of Stone Church Road, Glancaster Road and Susan Drive are designated in the Town of Ancaster's Official Plan and Secondary Plans, acknowledging the Expressway connections.

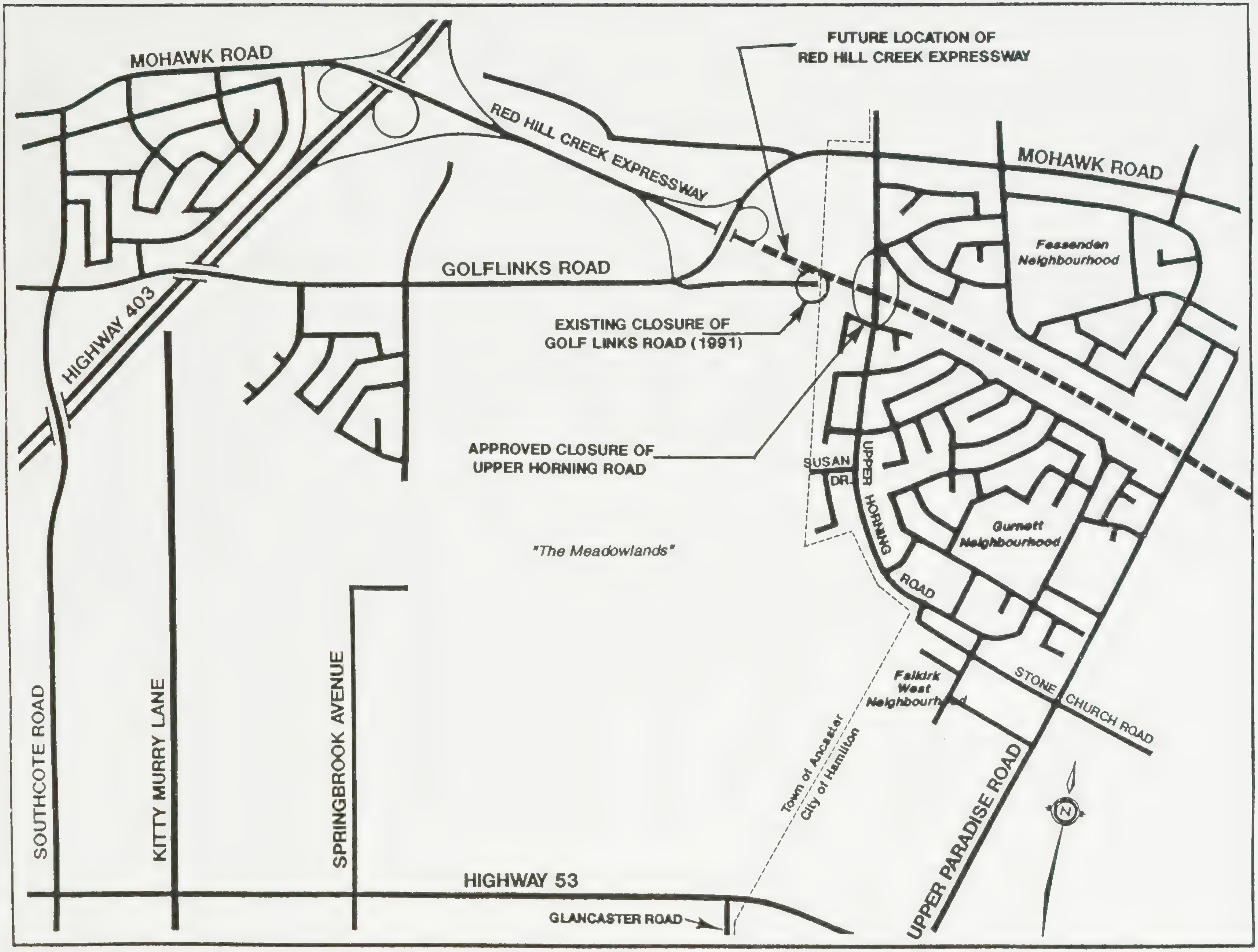


FIGURE 1.1 GENERAL STUDY AREA

1985	- Approval of the Red Hill Creek Expressway and closure of Upper Horning Road.
1991	- Roads Department begins construction on E-W Mountain section of the Red Hill Creek Expressway. - The Town of Ancaster requests input from the Region's Roads Department for the realignment of proposed roads in the Meadowlands for the purpose of minimizing the impact in an Environmentally Sensitive Area (ESA). - The Town of Ancaster is informed that the Region must carry out a Class EA to determine the location of the road and that the Region is also proposing to provide an access out of the Gurnett neighbourhood as a result of the proposed closure of Upper Horning Road.
early 1992	- Region holds a public meeting in Gurnett and Fessenden neighbourhoods to discuss closure of Upper Horning Road. - Council confirms the plan to close Upper Horning Road as per the EA approval for the Red Hill Creek Expressway.
1992	- Regional Roads Department begins the Class EA process and sets up a study team.
Oct. 1992	- Regional Roads Department holds two Public Information Centres (PICs) to obtain comments from the public on the proposed project. - The Region advertised the PICs in several newspapers and delivered flyers to over 3,000 residents.
Winter 1992/93	- Region reviews the comments obtained from the PICs, meetings with the property owners in the Meadowlands, agencies and staff.
May 1993	- Letters are sent to all members of the public who wrote comments to the Region. Letters also included information regarding the future PICs.
June 1993	- Two PICs are held to show the routes that have been evaluated and the route that the Regional Roads Department recommends. Notices are placed in newspapers and are mailed to the area residents and property owners in Hamilton and Ancaster.

Summer 1993	- Region reviews the comments obtained from the PICs, meetings with the property owners in the Meadowlands, agencies and staff. - Region begins a Transportation Plan that will be reviewing the criteria used to designate Regional Roads. - Letters are sent to all public who provided comments at the last set of PICs.
Sept. 1993	- Two PICs are held to show the route that the Regional Roads Department recommends and to explain the reasons. Notices are placed in newspapers and are mailed to the area residents and property owners in Hamilton and Ancaster. - Region reviews the comments obtained from the PICs, meetings with the property owners in the Meadowlands, agencies and staff. The Roads Department then meets individuals or groups that still have concerns.
Nov. 1993 to Feb. 1994	- ESR is prepared. Refinements to the recommended roadway are made following further meetings with residents.

2.0 APPROACH

2.1 Class Environmental Assessment Process

The Class EA process was developed in accordance with the *EA Act*, for a "class" of projects consisting of municipal road projects, that are recurring, usually similar in nature, usually limited in scale, have a predictable range of environmental effects, and are responsive to mitigating measures. The purpose of the Class EA is to promote the protection and conservation of the environment through comprehensive planning and informed decision-making. It allows municipalities to meet the requirements of the *EA Act*, while following a streamlined, self-administered process. The word "environment" in this context is defined as any aspect of life that may be impacted by an undertaking. Therefore, "the environment" can include aspects of the fiscal, natural, social and community environments depending on the project in question.

Due to the variable level of environmental impacts, projects are classified into "schedules" as follows:

Schedule A projects are limited in scale, have minimal environmental impacts and require no public notification or documentation.

Schedule B projects have the potential for some environmental impacts. The proponent is required to undertake a "screening" process, involving mandatory contact with the directly affected public and government agencies, to ensure that their concerns are addressed. Schedule B projects require that a Project File be prepared and submitted for public review.

Schedule C projects have the potential for significant environmental impacts and must proceed under the full planning and documentation procedures of the Class EA document. Schedule C projects require that an Environmental Study Report (ESR) be prepared and submitted for review by the public.

The project initially followed the 1987 MEA Class EA document as the 1993 version did not come into effect until prior to the preparation of this ESR. The 1987 Class EA classified all new roads over $875,000 as a Schedule C project, while the 1993 version increased this value to $1.5 million dollars. This project is likely to cost over $1.5 million dollars and has followed the Class EA process as a Schedule C activity.

The Class EA process has five phases as shown in Figure 2.1. The process progresses from problem identification (Phase 1), through a preferred solution (Phase 2) and design concept (Phase 3), to documentation (Phase 4), and finally detailed design and construction (Phase 5). Public consultation is undertaken throughout the process.

There were three main phases at which key decisions were made for the planning of this project. They were at:

1. Alternative Solutions to the problem;
2. Alternative Roadway Locations (Networks); and
3. Alternative Designs for each road segment.

Each phase of the Class EA process followed, as it relates to this ESR, is highlighted below.

Phase 1 - Problem Identification

For this Class EA, Problem Identification consisted of assessing the future traffic and emergency access requirements of the Gurnett neighbourhood following the closure of Upper Horning Road at the Red Hill Creek Expressway, and the Regional road network support for future growth in the Meadowlands area, in Ancaster. The problem definition is outlined in **Section 1.2** (Purpose of the Project).

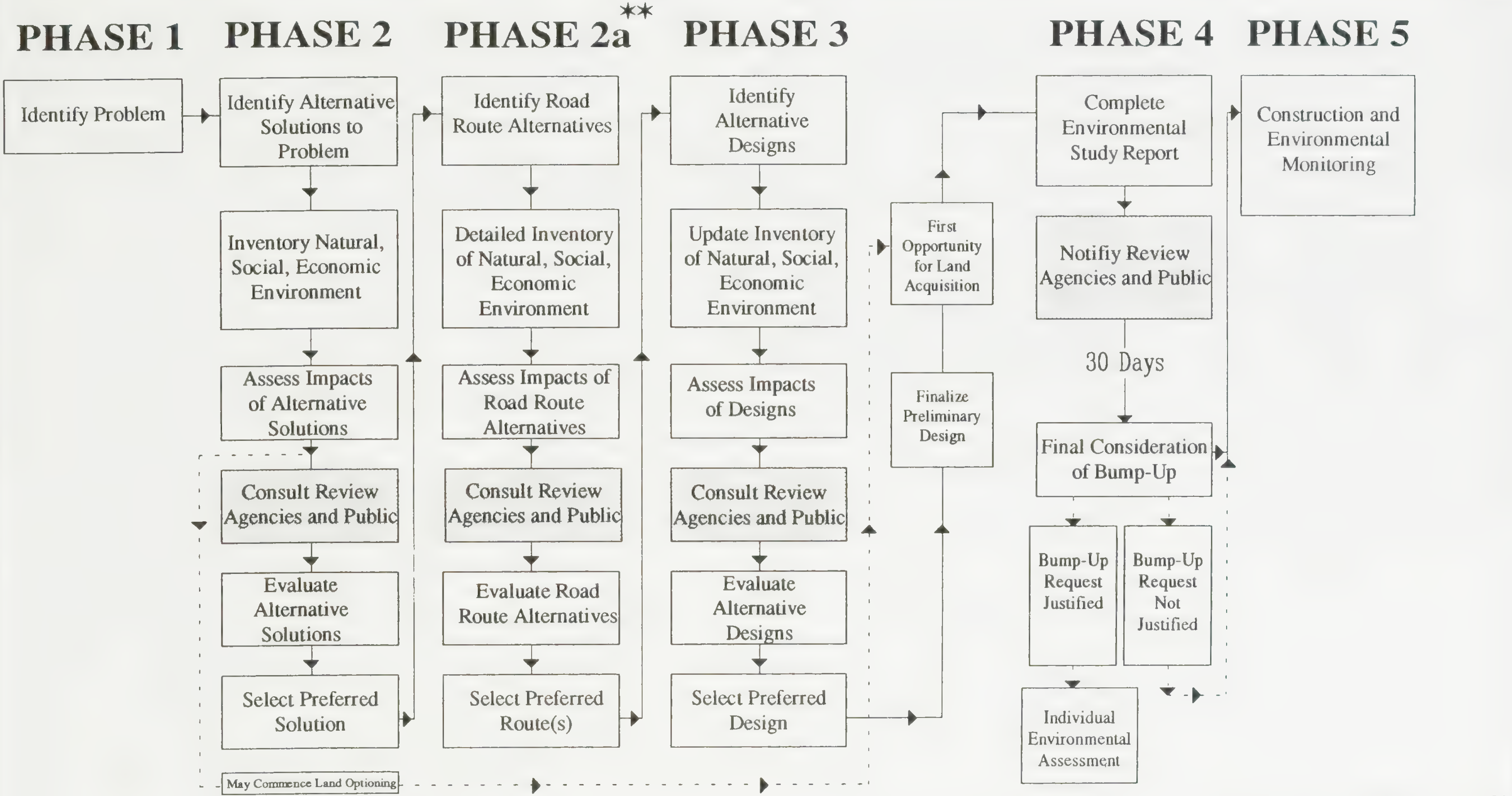
Phase 2 - Alternatives Solutions

Alternative Solutions to the problem were identified by taking into consideration the existing technical, natural, socio-economic and cultural environments of the study area. **Section 3.0** describes these existing conditions. The consideration of planning alternatives and assessment is detailed in **Section 4.0**. At this point, it was determined that Schedule C was the most appropriate schedule for this undertaking, according to the Class EA for Municipal Road Projects.

Phase 2a - Alternative Route Locations

This phase was added by the Region to ensure that opportunities were provided for full assessment and public consultation for all major decision-making points in the project. This phase consisted of identifying and evaluating alternative route locations. Further detailed inventories of the technical, natural, socio-economic, and cultural environments were conducted within the study area to determine the most suitable route locations. This information is included in **Section 3.0**. Following an evaluation of the alternative route locations, which included input from review agencies, the study team, landowners, and the public, a preferred route network was identified. The assessment of alternative route locations is detailed in **Section 5.0**.

CLASS ENVIRONMENTAL ASSESSMENT PROCESS *


PHASE 1
PHASE 2
PHASE 2a **
PHASE 3
PHASE 4
PHASE 5
Identify Problem
Identify Alternative Solutions to Problem
Inventory Natural, Social, Economic Environment
Assess Impacts of Alternative Solutions
Consult Review Agencies and Public
Evaluate Alternative Solutions
Select Preferred Solution
May Commence Land Optioning
Identify Road Route Alternatives
Detailed Inventory of Natural, Social, Economic Environment
Assess Impacts of Road Route Alternatives
Consult Review Agencies and Public
Evaluate Road Route Alternatives
Select Preferred Route(s)
Identify Alternative Designs
Update Inventory of Natural, Social, Economic Environment
Assess Impacts of Designs
Consult Review Agencies and Public
Evaluate Alternative Designs
Select Preferred Design
First Opportunity for Land Acquisition
Finalize Preliminary Design
Complete Environmental Study Report
Notifiy Review Agencies and Public
30 Days
Final Consideration of Bump-Up
Bump-Up Request Justified
Bump-Up Request Not Justified
Individual Environmental Assessment
Construction and Environmental Monitoring
Opportunities for Public Input
Mandatory Events
Possible Events

* Source: Municipal Engineers Association, Class Environmental Assessment for Municipal Road Projects document

** Phase 2a was added by the Regional Municipality of Hamilton-Wentworth to ensure an opportunity for full assessment and public consultation for all major decision-making points on this project.

FIGURE 2.1

Phase 3 - Alternatives Design Concepts

Following the determination of the preferred route network, alternative roadway designs were identified and evaluated. Input on the preferred preliminary design was sought from review agencies, an study team, landowners, and the public. This phase is detailed in **Section 6.0**.

Phase 4 - Documentation

The documentation of the planning and design process outlined by the Class EA is provided in this ESR. This ESR summarizes the rationale, and the planning, design and consultation process of the project established through the above phases, and is made available for scrutiny to review agencies and the public. This phase also describes the positive and negative environmental impacts and makes a commitment to mitigating (avoiding or reducing) the environmental impacts.

Phase 5 - Construction and Monitoring

Following approval of this ESR by the Ministry of Environment and Energy, contract drawings and documents may be completed and construction and operation may proceed. This phase also involves monitoring the construction process for adherence to environmental provisions and commitments.

2.2 Project Organization

The Project Team consisted of staff from the Regional Municipality of Hamilton-Wentworth Roads Department (Special Projects Office); the consulting firm of UMA Engineering Ltd. as prime consultant undertaking the engineering and environmental assessment, beginning in January, 1993; and, several additional consultants possessing expertise in specialized areas, including:

• C. Portt and Associates	Fisheries
- Dougan and Associates (sub-consultant)	Wetland, Wildlife, Terrestrial Habitat
• Archaeological Services Inc.	Archaeology
• Peto McCallum Ltd.	Geotechnology, Hydrogeology

The project was coordinated by the Special Projects Office of the Regional Roads Department. In addition, a Study Team was established by the Region to provide input and review throughout the study. The Study Team included key agencies involved in the planning of new roads as well as agencies requesting involvement in the project. Members included:

- Hamilton Street Railway
- Local Planning Branch, Region Hamilton-Wentworth
- Regional Planning Branch, Region of Hamilton-Wentworth
- Roads Department, Region of Hamilton-Wentworth
- Environmental Services Department, Region of Hamilton-Wentworth
- Planning Department, Town of Ancaster
- Engineering Department, Town of Ancaster
- Planning Department, Township of Glanbrook
- Ministry of Natural Resources, Cambridge District
- Hamilton Region Conservation Authority
- Ministry of Culture, Tourism & Recreation

2.3 Review Agency and Public Consultation

Review agency and public participation was an integral part of the development and evaluation of the various alternatives. The consultation program and associated inputs to the process and evaluation are described chronologically throughout this ESR.

The consultation program undertaken, was over and above the requirements of the Municipal Class EA process. Input from review agencies and the public was solicited at all three key points in the process prior to decisions being made. The consultation and public involvement program consisted of formal notifications, group and one-on-one meetings, public information centres, and telephone calls with review agencies and the public, throughout the Class EA process.

Review agencies that were consulted consisted of:

- Regional departments and services
- local municipalities (Hamilton, Ancaster, Glanbrook)
- Provincial ministries
- utility agencies

Members of the public that were contacted included:

- landowners
- Meadowlands and Harmony Hall neighbourhood residents (Town of Ancaster)
- Fessenden, Gurnett, Falkirk West and part of Gilkson neighbourhood residents (City of Hamilton)
- other members of the general public
- public interest groups (Hamilton Naturalists' Club, Ancaster Conserver Society, LACAC)

Table 2.1 summarizes the public and agency consultation programme for this study.

TABLE 2.1

SUMMARY OF CONSULTATION PROGRAM

Group	Date	Type of Consultation	Purpose
Regional and Local Planning staff, Town of Ancaster (Planning)	January 17, 1992	meeting	• to review the Class EA process • to review the problem and alternative planning solutions • preliminary review of criteria for evaluating options • identification of agencies (regional, municipal, provincial, utility) and public to be involved
STUDY TEAM			
	May 12, 1992	meeting	• update on project status (Phase 2) and environmental studies being conducted (Hamilton Naturalists' Club invited to meeting also)
	May 25, 1992	meeting	• discussions with the Hamilton Region Conservation Authority about the project and environmental studies being carried out
	May 29, 1992	meeting	• discussions with the Town of Ancaster (Planning), Township of Glancaster (Planning), and Regional staff (Roads, Planning) on land use and transportation issues; review of need to link the proposed Glancaster Road extension to the existing Glancaster Road intersection at Highway 53
	July 30, 1992	letter	• input requested on factors for the evaluation of planning and design alternatives
	September 1, 1992	meeting	• discussions on the results of environmental studies being carried out • discussions on list of significant environmental factors and methodology to be used in the evaluation of the alternatives
	September 17, 1992	meeting	• discussions with the Ministry of Natural Resources concerning: - fisheries assessment - wetland evaluation
	September 23, 24, 25, 1992	meetings	• discussion on evaluation of planning and route alternatives
	October 15, 1992	meeting	• update on status of project, environmental studies, and evaluation of alternatives • invitation to first set of PICs
	May 26, 1993	meeting	• discussions on alternative road alignments, evaluation criteria, and evaluation
	June 9, 1993	letter	• invitation to second set of PICs

TABLE 2.1 (cont'd)

SUMMARY OF CONSULTATION PROGRAM

Group	Date	Type of Consultation	Purpose
Study Team (cont'd)	June 24, 28, 1993	meeting	• review of input received from landowners, the general public, review agencies, and Study Team • discussion on Regional and local road needs in the Meadowlands
	September 20, 1993	letter	• invitation to third set of PICs
	October 27, 1993	meeting	• discussions with the Town of Ancaster about: - status of project - preliminary design of the preferred route
	January 10, 1994	telephone call	• follow-up with the Ministry of Natural Resources to determine the status of the fisheries assessment and wetlands classification • staff indicated that: - fish habitat compensation not required - wetland at least a Class 3, may be a Class 2 (due to the importance of the wetlands hydrological functions and special features)
	February 18, 1994	letter	• draft ESR sent for review
LANDOWNERS			
	May 12, 1992	meeting	• introduction to the project, problems to be resolved, Class EA process, proposed schedule, involvement of landowners in the process
	May 21, 1992	meeting	• further discussions with a landowner about the project
	May 27, 1992	letter	• property map provided of directly affected landowners
	September 28, 1992	letter	• notification of first set of PICs and meeting
	October 15, 1992	meeting	• update on project status (Phase 2) and environmental studies being carried out
	November 3, 1992	letter	• information concerning draft wetland boundaries and mapping of alternatives provided
	December 29, 1992	letter	• draft wetlands report provided to a landowner
	March 12, 1993	letter	• draft fisheries assessment, wetlands report provided to a landowner

TABLE 2.1 (cont'd)

SUMMARY OF CONSULTATION PROGRAM

Group	Date	Type of Consultation	Purpose
Landowners (cont'd)	May 7, 1993	letter	• input requested on evaluation criteria for assessment of route alternatives • notification of second set of PICs and meeting
	June 16, 1993	meeting	• update on project status (Phase 2a) • discussion on preliminary evaluation of route alternatives
	June 25, 1993	meeting	• further explanation and on-site determination of wetland boundaries with 2 landowners
	August 3, 1993	meeting	• discussion with a landowner to determine the size of land parcels that would be created from the proposed extension of Stone Church Road
	September 9, 1993	letter	• notification of third set of PICs and meeting
	September 21, 1993	meeting	• update on project status (Phase 3) • discussion on preferred route and preliminary design
	November 1, 1993	meeting	• requested by a landowner to discuss possible changes to the location of the preferred alignment to take into consideration possible future land uses
	November 11, 1993	telephone call	• follow-up with a landowner about comments regarding information previously sent about the location of the preferred road extension

TABLE 2.1 (cont'd)

SUMMARY OF CONSULTATION PROGRAM

Group	Date	Type of Consultation	Purpose
GENERAL PUBLIC AND PUBLIC INTEREST GROUPS			
	October 15, 1992	brochure	• notification of first set of PICs mailed to residents in and adjacent to the Meadowlands and hand delivered to residents in the Gurnett and Fessenden neighbourhoods in Hamilton
	October 7, 10, 14, 1992	newspaper ad	• invitation to the first set of PICs to the general public
	October 13, 1992	letter	• invitation to Public Interest Groups (Ancaster Conserver Society, Hamilton Naturalists's Club) to first set of PICs
	October 19 and 21, 1992	PIC	• to explain to the public why the project is being undertaken; • to show the alternative road locations being considered; • to show the results of environmental studies carried out; • to explain the factors the Region will use to compare the impacts of the road locations; • to obtain further information about the area; and • to obtain comments from the public
	June 9, 1993	letter, brochure	• responses to concerns raised by the public at the first set of PICs and invitations to the second set of PICs • Public Interest Groups (LACAC, Ancaster Conserver Society, Hamilton Naturalists' Club) invited to second set of PICs • brochures mailed to residents in and adjacent to the study area
	June 12, 16 1993	newspaper ad	• invitation to the second set of PICs to the general public
	June 23 and 24, 1993	PIC	• to show the alternative road locations being considered; • to show and explain the evaluation of the alternative road locations, including identification of the preferred road location • to obtain further information about the area; and • to obtain comments from the public about comments/concerns they may have on the preliminary preferred road location

TABLE 2.1 (cont'd)

SUMMARY OF CONSULTATION PROGRAM

Group	Date	Type of Consultation	Purpose
General Public and Public Interest Groups (cont'd)	September 20, 1993	letter, brochure	• responses to concerns raised by the public at the second set of PICs and invitations to the third set of PICs • Public Interest Groups (LACAC, Ancaster Conserver Society, Hamilton Naturalists' Club) invited to third set of PICs • brochures mailed to residents in and adjacent to the study area
	September 18, 22, 1993	newspaper ad	• invitation to the third set of PICs to the general public
	September 28 and 29, 1993	PIC	• to show the preferred route selected and explain the rationale • to show the preliminary preferred design of the route • to show the mitigation measures proposed • to obtain comments from the public about comments/concerns they may have on the preliminary preferred road location
	November 8, 1993	letter	• responses to concerns raised by the public at the third set of PICs
	January 6, 1994	meeting	• requested by Ward 8 Councillor on behalf of an Elodia Court resident - explanation of the history of the project and the process followed - explanation of the public consultation program carried out - description of the next steps of the project
	February 1, 1994	meeting	• requested by Ward 8 Councillors and Elodia Court residents to discuss the preferred alignment
	February 2, 1994	letter	• response to concern raised by a member of the public about traffic at Omni Boulevard and Stone Church Road
	February 9, 1994	telephone call	• discussion with attorney for Elodia Court residents regarding the process carried out for the project

TABLE 2.1 (cont'd)

SUMMARY OF CONSULTATION PROGRAM

Group	Date	Type of Consultation	Purpose
REVIEW AGENCIES (Provincial, Regional, Municipal, Utility)			
	January 29, 1992	letter	• notification of initiation of project regional and municipal agencies
	February 10, 1992	letter	• notification of initiation of project to provincial and utility agencies
	July 30, 1992	letter	• Ministry of Culture and Communications and Ministry of the Environment asked to provide input on factors for the evaluation of planning and design alternatives
	October 16, 1992	letter	• archaeological assessment report sent to the Ministry of Culture and Communications
	December 9, 1992	meeting	• discussions with the Local Planning Office (Hamilton) about: - project status - wetlands classification - implications for Falkirk West Secondary Planning
	April 2-5, 1993	facsimile	• information requested from utility agencies (hydro, gas, telephone, pipeline) on the location of their facilities in order to identify potential conflicts
	June 9, 1993	letter	• invitation to second set of PICs
	July 2, 1993	telephone calls, letters	• input requested from Hamilton-Wentworth Regional Police, Fire Department, Ambulance Services and Critical Care Transport on the adequacy of/need for a Susan Drive access for emergency response
	August 31, 1993	meeting	• meeting with EA Branch, Ministry of the Environment and Energy staff to obtain input on the Class EA process carried out for the project
	September 20, 1993	letter	• invitation to third set of PICs
	October 18, 1993	letter	• profile plans of the preliminary preferred design sent to utility agencies (hydro, gas, telephone, pipeline) for comment and review
	November 9, 1993	letter	• profile plans of the preliminary preferred design sent to Ontario Hydro for comment and review

TABLE 2.1 (cont'd)

SUMMARY OF CONSULTATION PROGRAM

Group	Date	Type of Consultation	Purpose
Review Agencies (cont'd)	November 9, 1993	telephone call	• discussion with Union Gas about the location of their facilities and potential for conflicts
	December 14, 1993	letter	• revised profile plans of the preliminary preferred design sent to Ontario Hydro for comment and review
	December 22, 1993	meeting	• to clarify information needed by Ontario Hydro staff to review the preliminary preferred design
	February 18, 1994	letter	• draft ESR sent for review as requested by Approvals and Planning, Ministry of Environment and Energy
	February 18, 1994	letter	• the following notified of the availability of the draft ESR for review: - Ministry of Culture, Tourism and Recreation (Archaeology) - Town of Ancaster (Public Works) - Ambulance Services and Critical Care Transport - City of Hamilton Fire Department - utility agencies (hydro, pipeline, gas)

3.0 EXISTING CONDITIONS

3.1 Background

Identification of the existing conditions in the study area is needed to assess the potential impacts of the various alternatives under consideration. This section describes the existing technical, natural, socio-economic and cultural environment in the study area.

A number of studies have been undertaken in the study area. These studies, listed below, provided the study team with a background of existing conditions.

Traffic/Transportation:

- Transportation Impact Analysis, Meadowlands Shopping Centre Phase 1, Ancaster, Ontario - prepared by B ~ A Consulting, 1991.
- Transportation Assessment, Proposed Secondary Plan for The Mohawk and Golf Links Communities, Town of Ancaster - prepared by Marshall Macklin Monaghan, 1979.
- The Meadowlands of Ancaster, Traffic Impact Report - prepared by M.M. Dillon Limited, 1988.
- Highway 6 (new) Hamilton to Caledonia, Environmental Assessment Report - prepared by the Ontario Ministry of Transportation, Central Region.
- Mountain East-West and North-South Transportation Corridor Environmental Assessment, Vol. 1, Vol. 2 Exhibits, Supplementary Documentation - prepared by the Region of Hamilton-Wentworth.

Planning Studies:

- Meadowlands - Phase 1 - Draft Approved Plans of Subdivision - prepared by the Meadowlands Development.
- Town of Ancaster Meadowlands Community Secondary Plan Policies - prepared by the Regional Municipality of Hamilton-Wentworth Planning and Development Department for the Town of Ancaster, 1989.
- Hamilton Airport/Airport Industrial, Business Park Inventory of Existing and Proposed Facilities - prepared by the Regional Municipality of Hamilton-Wentworth, 1988.
- Gurnett Neighbourhood Plan (map only) - prepared by the City of Hamilton Planning Department, 1990.
- Falkirk West Neighbourhood Plan - in preparation

Environmental Studies:

- Ancaster Creek Headwaters Environmentally Sensitive Area (ESA #23): Environmental Inventory and Impact Statement for the Ancaster Meadowlands Community - prepared by Ecoplans Limited, 1990.
- Hamilton - Wentworth Region Environmentally Sensitive Areas Study - prepared by Ecologistics Limited, 1976.
- State of the Environment 1990 - prepared by the Regional Municipality of Hamilton-Wentworth, 1990.
- Environmentally Sensitive Areas, Development Sensitivity Study - prepared by Geomatics International Inc., 1991.
- Archaeological Report for the Meadowlands - prepared by Archaeological Services Inc., 1990.
- Hamilton-Wentworth Natural Areas Inventory - Volume II: Site Summaries - prepared by the Hamilton Naturalists Club, 1993.

3.2 Study Area

The general study area is primarily within the Town of Ancaster, but includes a small portion at the edge of the City of Hamilton, as previously shown in Figure 1.1. The general boundaries of the study area are Golf Links Road to the north, Highway #53 (Rymal Road) to the south, Southcote Road to the west and Upper Horning Road and Upper Paradise Road to the east. The study area, covers approximately 600 hectares (ha).

The study area for specific aspects of the study was modified as needed. For example, environmental inventories focused on the environmentally sensitive areas and Tiffany Creek; the study area for road options was narrowed down following the environmental inventories; and the public consultation study area included the Gurnett, Fessenden, Falkirk West neighbourhoods and other residential areas around the periphery of the general study area.

3.3 Technical Environment

3.3.1 Transportation

Existing

The study area is bounded on all sides by roadways. A summary of these roads by classification and number of lanes is shown below.

ROAD	CLASSIFICATION	# OF LANES
Highway 403	Freeway	Four
Highway 53	King's Highway	Two
Mohawk Road (east of Hwy. 403 interchange)	Arterial	Four
Mohawk Road (west of Hwy. 403 interchange)	Arterial	Two
Southcote Road	Arterial	Two
Golf Links Road	Arterial	Five
Kitty Murray Lane	Arterial	Two
Springbrook Avenue	Local	Two

Construction of the mountain section of the Red Hill Creek Expressway is underway. Construction of the section to the east of the Highway 403 Interchange is scheduled to begin in 1995/1996 and Upper Horning Road is to be closed in 1995 on both sides of the Expressway.

Existing transit service in the area is provided by:

- route 34 from Glancaster Road/Hwy. 53 loop along Upper Paradise Road to downtown Hamilton; and
- route 34A from Golf Links loop along Upper Horning Road and Upper Paradise Road to downtown Hamilton.

Future

Development of property within the Meadowlands has commenced in the northwest quadrant and is expected to continue throughout the developable land, as market conditions allow. A road network is required to link new subdivision roads to the existing road network on the boundaries of the Meadowlands.

Figure 3.1 shows the projected traffic volumes for the intermediate and ultimate phases for Stone Church and Glancaster Road extensions using alignments as proposed in the draft Meadowlands Secondary Plan, August 1989.

As the Meadowlands area develops, transit service will be extended using the proposed road extensions.

3.3.2 Municipal Infrastructure

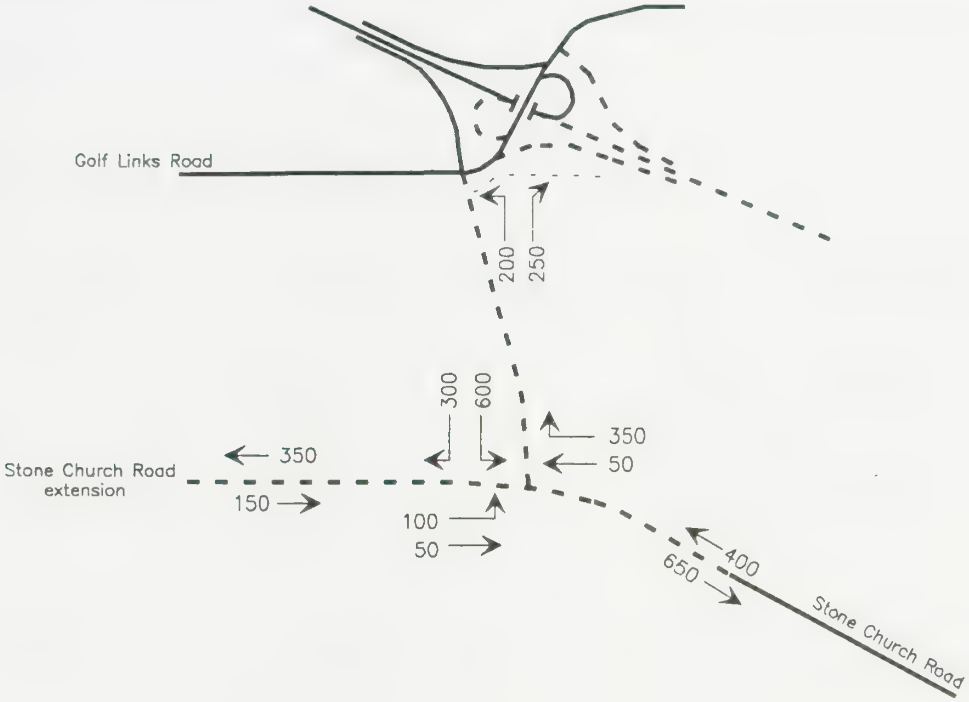
3.3.2.1 Drainage

Golf Links Road is built with curbs and gutters, catchbasins and a storm sewer buried below the roadway. The existing Stone Church Road also has a curb and gutter, catchbasins, and a storm sewer east of Omni Boulevard.

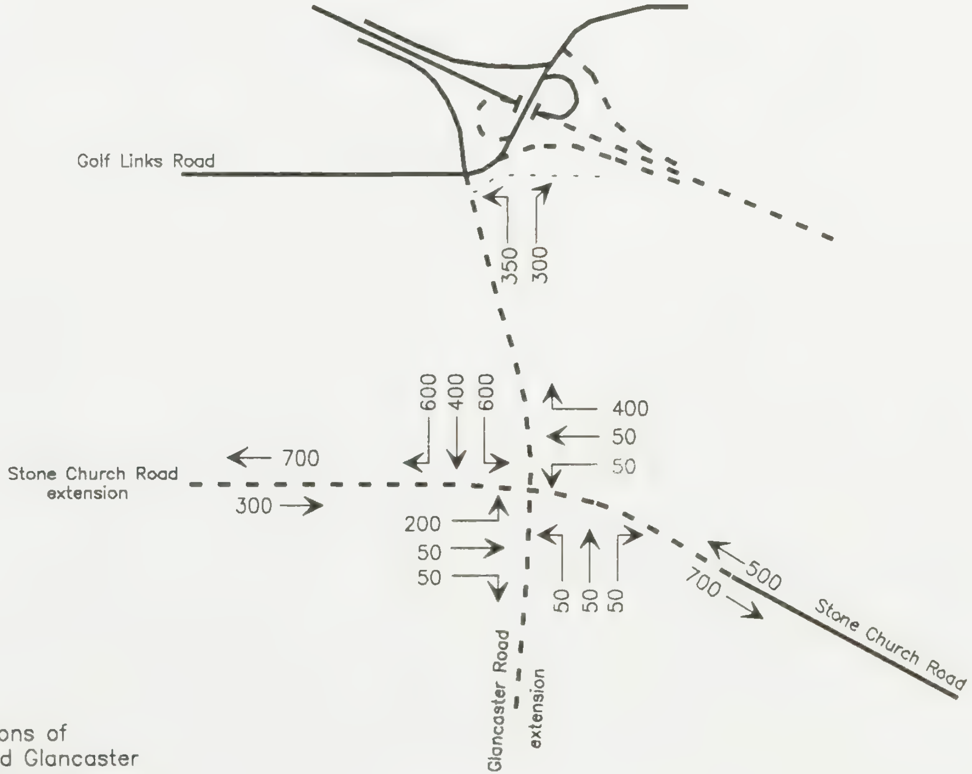
3.3.2.2 Watermains and Sanitary Sewers

The table below indicates the location and diameter of watermains and sanitary sewers within the study area.

WATERMAIN/ SANITARY SEWER	LOCATION	DIAMETER
Watermain	Near expressway exit ramp along Golf Links Road, in the south boulevard.	400 mm
Sanitary Sewer	Buried below roadway at above location.	-
Watermain	West boulevard of the north- south section and south boulevard of the east-west section of Springbrook Avenue.	200 mm to 400 mm
Watermain	North boulevard of Highway 53 from east of Glancaster Road to 125 m west of Glancaster Road continuing 750 m west of Kitty Murray Lane.	600 mm
Watermain	West boulevard of Southcote Road from Highway 53 to Gray Court Drive .	300 mm
Watermain	West boulevard of Southcote Road north of Gray Court Drive.	400 mm
Watermain	East boulevard of Southcote Road from Highway 53 to Gray Court Drive.	600 mm
Sanitary Sewer	Below the northbound lane of Southcote Road from just south of Gray Court Drive north to just prior to Golf Links Road (drains to a sewer on Dorval Drive).	-



INTERMEDIATE ± 10 YEARS



NOTES:

- PM Peak Hour
- Assumes extensions of Stone Church and Glancaster Roads as previously proposed in the draft Meadowlands Secondary Plan, Aug. 1989
- Forecasts supplied by Regional SPO (1993)

ULTIMATE PHASE

FIGURE 3.1: PROJECTED TRAFFIC VOLUMES

3.3.2.3 Utilities

The major utilities in the study area are shown in Figure 3.2. All known utilities in the area are summarized in the following table.

UTILITY	FACILITY TYPE	COMMENTS
Bell Canada	-Easement	not in use
	-Overhead line	line located on east boulevard of Southcote Road
	-Buried cable	located in north boulevard of Golf Links Road
	-Buried cable	located in north boulevard of Highway 53
	-Buried cable	located in south boulevard of east-west section of Springbrook Avenue
Ontario Hydro	-Horning Mountain Transformer Station	north of ROW
	-230 kv transmission line	on metal towers in its own ROW
	-115 kv and 230 kv transmission lines	on metal towers in a north-south ROW
	-27.6 kv hydro line	on wooden poles in the north-south ROW
	-Service lines	on wooden poles on south side of Golf Links Road
Hamilton Hydro	-Overhead line	located on east boulevard of Southcote Road
	-Overhead line	on wooden poles in south boulevard of east-west section of Springbrook Avenue
	-Overhead line	on wooden poles in south and north boulevards of Highway 53
TransCanada Pipeline	-Pipeline	located in an easement in Ontario Hydro north-south ROW
Union Gas	-Buried line	north boulevard of Golf Links Road
	-Buried line	west boulevard of Southcote Road
	-Buried line	south boulevard of east-west segment of Springbrook Avenue
	-Buried line	north boulevard of Highway 53

3.4 Natural Environment

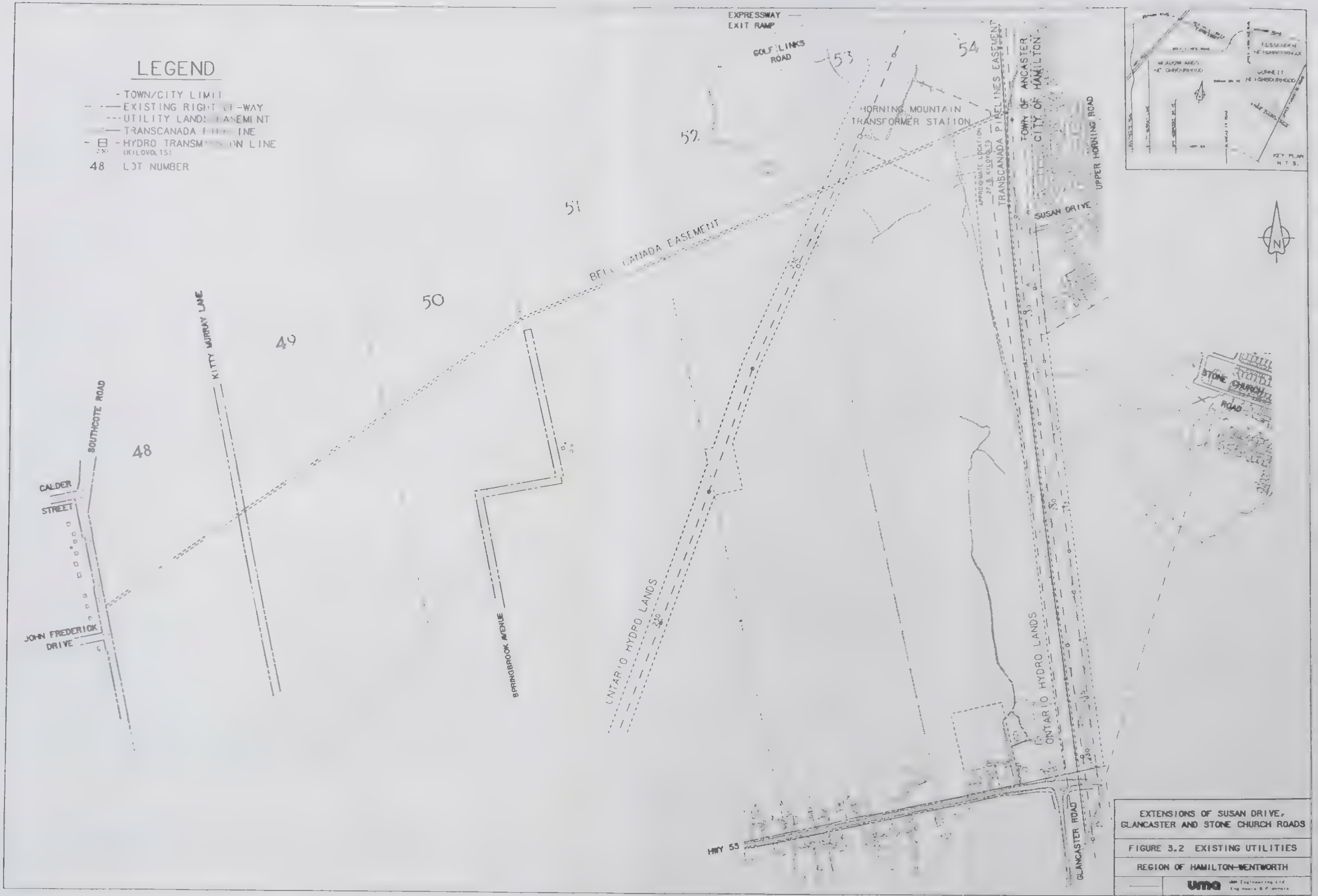
3.4.1 Environmentally Sensitive Area

A major wooded area along the main tributary of Tiffany Creek has been designated as Regionally Environmentally Sensitive Area (ESA) No. 23, and is known as the Ancaster Creek Headwaters ESA (Ecologistics, 1976). Within this ESA, there is a mixture of old fields, early succession stage forest, shrubland, stream valley/meadow, and mature forest. In 1990, Ecoplans Ltd. carried out an environmental inventory and impact statement for the Ancaster Creek Headwaters ESA on behalf of the Town of Ancaster. For the purposes of this Class EA, the boundary of the ESA, as defined by Ecoplans Ltd. (1990) has been used and is shown in Figure 3.3.

This ESA is located along the fringe of an urban area (City of Hamilton), and is adjacent to lands being converted from agricultural to residential areas. The ESA is weakly connected (separated by Golf Links Road and the Red Hill Creek Expressway) to two other natural areas, Iroquoia Heights and Dundas Valley. A Hydro right-of-way and discontinuous greenspace effect a weak linkage with the Iroquoia Heights Conservation Area, approximately 1 kilometre (km) to the north. Tiffany Creek links this site with Tiffany Falls and the Dundas Valley natural area to the northwest.

In 1992, the Hamilton Naturalists' Club inventoried and surveyed the Ancaster Creek Headwaters ESA along with areas outside of the existing ESA boundary. Based on the findings of the Hamilton-Wentworth Natural Areas Inventory Study (Hamilton Naturalists' Club, 1993), the boundaries of the Ancaster Creek Headwater ESA were subsequently revised, and the ESA was renamed the Tiffany Creek Headwaters ESA. Changes to the ESA boundary, as per the Natural Areas Inventory study have been designated in the draft Regional Official Plan, but have not yet been adopted in the Regional Official Plan.

The ESA is considered significant because the site serves an important hydrological function for maintaining water quality in Tiffany Creek (see Sections 3.4.2 and 3.4.3), provides habitat for significant species (see Sections 3.4.7 and 3.4.8), and is considered locally significant as a remnant natural area in an increasingly built-up landscape (Hamilton Naturalists' Club, 1993).



EXTENSIONS OF SUSAN DRIVE, GLANCASTER AND STONE CHURCH ROADS

FIGURE 3.2 EXISTING UTILITIES

REGION OF HAMILTON-WENTWORTH

uma Engineering Ltd. Engineers & Planners

3.4.2 Tiffany Creek

Tiffany Creek, shown in Figure 3.3, is a tributary of Ancaster Creek. It joins the main branch of Ancaster Creek in the Dundas Valley, after descending the Niagara Escarpment at Tiffany Falls. Ancaster Creek (noted as a coldwater fishery) drains towards Cootes Paradise on the shores of Lake Ontario.

Tiffany Creek flows north through the Niagara Falls moraine, over the Niagara Escarpment at Tiffany Falls, then through a kame moraine for a short distance before it joins Ancaster Creek (Ontario Department of Mines and Northern Affairs, 1972). Downstream of Tiffany Falls, a 1 km long section of Tiffany Creek has recently been channelized as a result of the widening of Golf Links Road and the development of the Meadowlands area.

Flow in Tiffany Creek and its tributaries is intermittent within the study area. During dry periods, Tiffany Creek is reduced to standing pools (C. Portt and Associates, October 1992).

The upper watershed of Tiffany Creek consists of mostly agricultural and unimproved lands and slopes northwards towards the Niagara Escarpment. The Creek itself lies within fairly steep valley lands within the ESA. The presence of riparian wetlands and natural vegetation assist in moderating stream flow and limiting erosion in the headwaters of Tiffany Creek. Maintaining the water quality at the Tiffany Creek headwaters is important as it supports the significant rainbow trout coldwater fishery of Ancaster Creek (see Section 3.4.4).

3.4.3 Wetland Complex

A wetland evaluation of the study area and vicinity was undertaken by Dougan and Associates (in conjunction with C. Portt and Associates) in 1992. The study area contains a wetland complex dominated by marsh (68%) with a significant swamp component (32%). The complex contains 13 separate wetland areas which are associated with the tributaries of Tiffany Creek, illustrated in Figure 3.3. The area of the assessed wetland was determined to be 34.95 ha. The wetland complex was ranked as a Class 3 wetland (provincially significant) with a combined score of 589 points, based on the Evaluation System for Wetlands of Ontario, Second Edition (Environment Canada and the Ontario Ministry of Natural Resources, 1984). The Ministry of Natural Resources (Cambridge District) is re-assessing the wetland under the Third Edition (1992) of the Evaluation System, and have indicated that the wetland complex may be ranked as Class 2 based on the importance of hydrological functions and rare vegetation species (see section 3.4.7). However, no major change to the wetland boundary determined by

Dougan and Associates (1992) is anticipated (Ministry of Natural Resources, personal communication, 1994).

A major component of the Environmentally Sensitive Area, the wetland complex, includes the main branch of Tiffany Creek. The most contiguous components are associated with the west branch of the creek. The balance of the wetland components are relatively isolated pockets of swamp or marsh associated with the main tributary or minor tributaries.

3.4.4 Fisheries

A fisheries assessment of Tiffany Creek was undertaken by C. Portt and Associates in June 1992.

Flow in Tiffany Creek and its tributaries is intermittent within the study area. Tiffany Creek is a highly disturbed warmwater stream which is reduced to standing pools during dry periods (C. Portt and Associates, October 1992). Fish are limited to a few common species of minnows, which are tolerant of these conditions. Access to the portion of Tiffany Creek which lies above the Niagara Escarpment is blocked by Tiffany Falls, so there is no opportunity for migratory species to utilize the headwaters. A second, smaller barrier exists immediately upstream from Highway 403. Under the existing conditions the productive capacity of this portion of Tiffany Creek is low, and the limited water base flow precludes any significant improvements to fish habitat.

Ancaster Creek supports a naturally reproducing population of rainbow trout. It is probable that most or all of these rainbow trout migrate to Lake Ontario as juveniles, mature in the lake, and then migrate back upstream to spawn. Thus the principal function of Ancaster Creek is the provision of essential spawning and nursery habitat for this species - it is considered a highly significant fish habitat. The water quality of Tiffany Creek is therefore important as it ultimately empties into Ancaster Creek.

3.4.5 Geology and Soils

The geology within the study area consists of a major silt stratum which extends down to dolostone bedrock at a depth of 10 to 30 m. The topsoil is dark brown silt with a low, locally medium, organic content. The topsoil thickness ranges between 80 and 380 mm, typically 230 millimetres. The silt contained traces of sand and clay and was generally compact to dense. Moisture contents varied between 10 to 27 percent, typically 15 to 20 percent. Occasional minor layers of sand and clay were encountered within the silt. The bedrock comprises dolostone of the Guelph and Lockport formations.

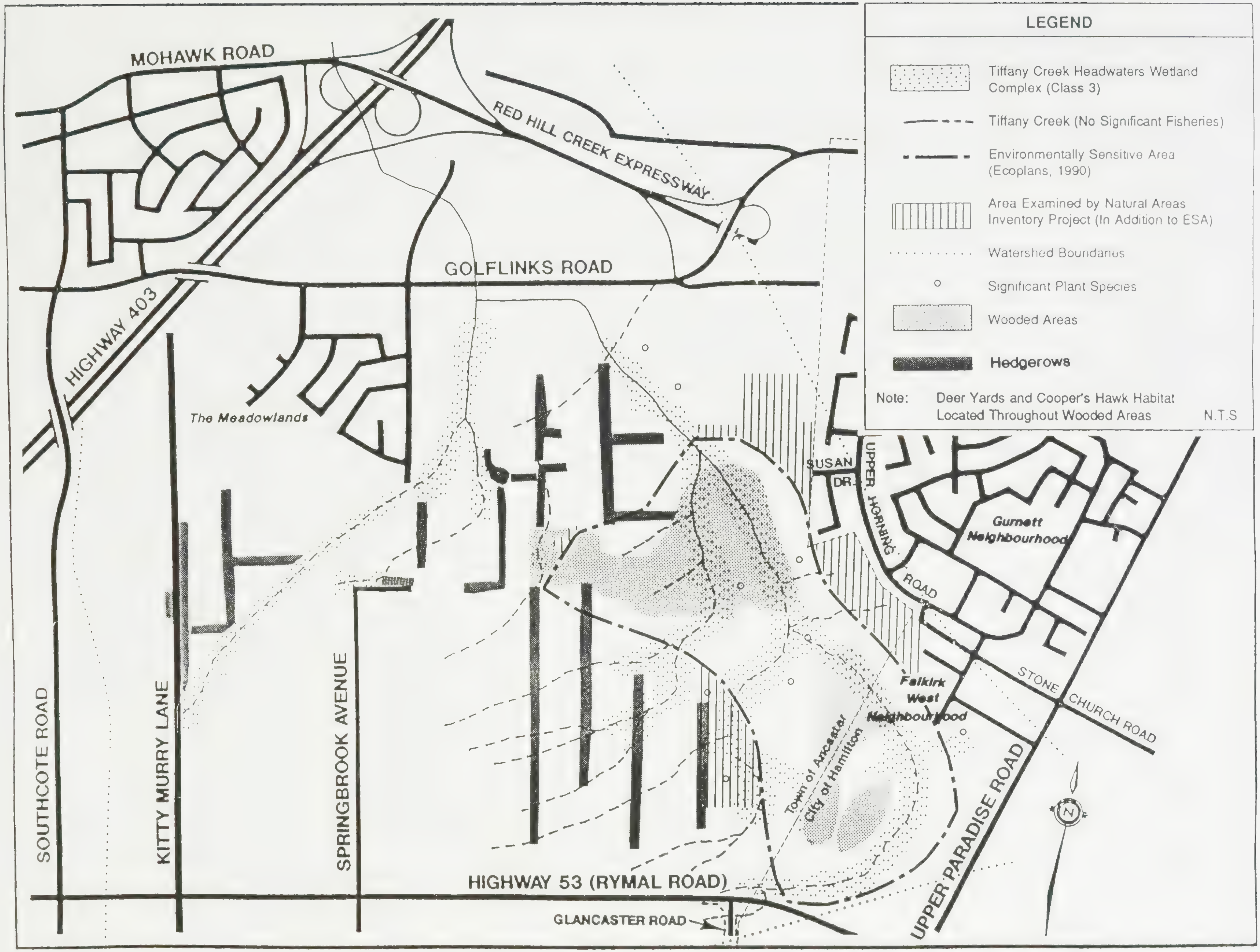

LEGEND
Tiffany Creek Headwaters Wetland Complex (Class 3)
Tiffany Creek (No Significant Fisheries)
Environmentally Sensitive Area (Ecoplans, 1990)
Area Examined by Natural Areas Inventory Project (In Addition to ESA)
Watershed Boundaries
Significant Plant Species
Wooded Areas
Hedgerows
Note: Deer Yards and Cooper's Hawk Habitat Located Throughout Wooded Areas
N.T.S
MOHAWK ROAD
RED HILL CREEK EXPRESSWAY
GOLFLINKS ROAD
HIGHWAY 403
The Meadowlands
SUSAN DR.
UPPER HORNING ROAD
Gurnett Neighbourhood
Falkirk West Neighbourhood
STONE CHURCH ROAD
Town of Ancaster
City of Hamilton
UPPER PARADISE ROAD
N
SOUTHCOTE ROAD
KITTY MURRY LANE
SPRINGBROOK AVENUE
HIGHWAY 53 (RYMAL ROAD)
GLANCASTER ROAD

FIGURE 3.3 ENVIRONMENTAL FEATURES

Within the study area, Tiffany Creek flows through well-drained soils, with the exception of those directly associated with the water courses (Presant et al, 1965). To the south and west of Tiffany Creek the watershed is covered by a complex of Grimsby sandy loam and Brant silt loam. The parent materials of these soils are water deposited silts and medium to fine sands. To the north and east of Tiffany Creek, Ancaster silt loam, described as a silty clay loam till, is the dominant soil type.

Generally, the study area is susceptible to erosion of the silty soils. Therefore, erosion control measures will be need to be implemented regardless of the options chosen.

3.4.6 Physiography and Topography

A geotechnical and hydrogeological study was undertaken by Peto MacCallum Limited in June, 1993. This study identified ground surface elevations across the study area ranging between 220 and 250 metres above sea level (masl). The local topography is generally undulating. The ground surface generally slopes toward Tiffany Creek at slopes of 1 to 10 percent, locally up to 20 percent on sections of the creek valleys. Groundwater flow into Tiffany Creek is mainly from the west. A small area between the Creek and the Gurnett neighbourhood also contributes groundwater flow.

Forty well records were identified adjacent to the study area. The records indicate that 70 percent of the wells obtain their water from the bedrock aquifer. The remaining 30 percent are developed in granular deposits within the silt. The groundwater flow pattern was interpreted from the well records and borehole information. Regional flow is to the north, however, locally flow is towards the Tiffany Creek valley.

3.4.7 Vegetation

The woodland units, illustrated in Figure 3.3, contain a variety of mixed upland and lowland hardwoods. In 1992 and in conjunction with the Wetlands Study, J. Dougan and Associates located vegetation units in the area. The woodland units within the ESA are mainly upland hardwoods including: red oak, red maple, black cherry, white ash, hawthorn, white pine, basswood and hickory (Ecoplans, 1990). The lowland hardwoods include: white elm, red ash and bur oak.

Within the study area, 22 hedgerows have been identified. These are also noted on Figure 3.3. Dominant species within these hedgerows include: ash, elm, black cherry, poplar, sumac, basswood, oak, maple, willow, hawthorn, dogwood, hickory and aspen. The successional status ranges from submature to mature, with botanical quality of low, moderate and high. Depending on maturity, the significance of the hedgerows vary, providing local wildlife habitat, local corridor value, aesthetic value, and continuity with larger woodlots and the wetland complex.

A variety of significant plant species has been noted within the ESA and vicinity (general locations shown in Figure 3.3). Bush clover (*Lespedera capitata*) and Virginia Mint (*Pycnanthemum virginianum*) were found during 1992 field studies (C. Portt and Associates, 1992). These species are located in wet meadows associated with seepage and seasonally-perched water table conditions, which are predominantly at the wetland margin or outside the defined wetland boundary.

Water starwort (*Callitriche verna*) was discovered in a shallow pond, apparently permanent, located at the intersection of two main forks of the wetland. Goodban (1993) indicates that this species is uncommon in the Region, with nine known sites. In addition, the species is also considered rare in the (former) MNR Central Region (Riley, 1989).

A native sedge species (*Carex molesta*) was collected which is not presently listed within the Region (Riley, 1989; Goodban, 1993). Identification was verified at Erindale College by Dr. P. Ball.

Some of the hawthorns collected are suspected hybrids (unconfirmed) of common species with a species unknown in Canada (*Crataegus lucorum*). Therefore, the significance of these hawthorn hybrid species is unknown. Dr. J. Phipps, Professor at University of Western Ontario and expert on hawthorns, indicated that more definitive study of this complex will not likely occur in the near future.

3.4.8 Wildlife

The original designation of the Tiffany Creek Headwaters as an ESA was based on the collection of the regionally significant Four-toed Salamander (*Hemidactylium scutatum*) in April 1963 (Ecologistics, 1976). In a later study (Ecoplans, 1990) it was concluded that the area lacks suitable habitat for the Four-toed Salamander and the earlier collection was not from this area. However, Ecoplans sighted the provincially-significant Cooper's Hawk (*Accipiter cooperii*) was noted in flight and carrying prey in the vicinity of the ESA. (Circa, 1990)

In February 1990, the MNR conducted deer wintering studies in the ESA and vicinity. Based on the available habitat and a significant deer count (55), they consider the area to be a regionally significant deer wintering yard. (MNR records, 1990)

3.5 Socio-Economic Environment

3.5.1 Land Use

Existing Land Use

Figure 3.4 illustrates a wide variety of existing land uses which includes residential, institutional, commercial and agricultural/open space/natural areas.

Throughout most of the Meadowlands the area is used for agriculture (e.g. corn) with some logging, areas and general open space. Much of this area will be developed in the future (see below). The Gurnett, Fessenden and Falkirk West neighbourhoods are predominately residential neighbourhoods in the City of Hamilton.

The northwest quadrant of the study area is being developed as part of the Meadowlands of Ancaster, a primarily single-family residential subdivision with commercial development taking place north of Golf Links Road.. Phase II of the Meadowlands is partly developed.

Proposed Land Use

Figure 3.5 illustrates the proposed land uses as shown in the July 1989 Town of Ancaster Meadowlands Community Secondary Plan Policies report.

Residential, consisting primarily of single family units, with some high density areas, is the predominant land use. The industrial lands are intended for prestige and service industries, while the commercial blocks are intended as a shopping centre and related commercial uses and a neighbourhood shopping centre.

Figure 3.5 also shows the general location of proposed roads to serve the Meadowlands.

3.6 Cultural Environment

3.6.1 Cultural Activities

The Ancaster Fair Grounds are located in the southwest of the study area to the west of Redeemer College. The Fair Grounds house the Ancaster Agricultural Society.

3.6.2 Heritage Resources

According to the Town of Ancaster Local Architectural Conservation Advisory Committee (LACAC), there are no significant designated heritage buildings in the study area.

3.6.3 Archaeological Resources

An archaeological assessment was undertaken by Archaeological Services Inc. in 1992. Analysis of previously documented sites within the immediate vicinity of the study area suggests considerable reuse of sites throughout the Archaic period (ca. 7000 B.C. - 2000 B.C.). It is possible that the Ancaster Creek Headwaters Complex represented economic security as the ecology of such areas offers a full range of year round terrestrial and aquatic resources.

The archaeological assessment did not systematically survey an agricultural field situated to the west of the hydro corridor, immediately east of Springbrook Avenue, and did not survey the ESA to the same level as the area would need to be cleared of vegetation. However, the potential for finds was indicated. The overall survey, excluding these areas, identified 19 prehistoric sites and 24 prehistoric findspots. A site is distinguished from a findspot by the quantity of material encountered and/or the presence of a diagnostic artifact. Depending on the location of the road extensions, there are up to 13 sites which may require further investigation to determine if further excavation is necessary.

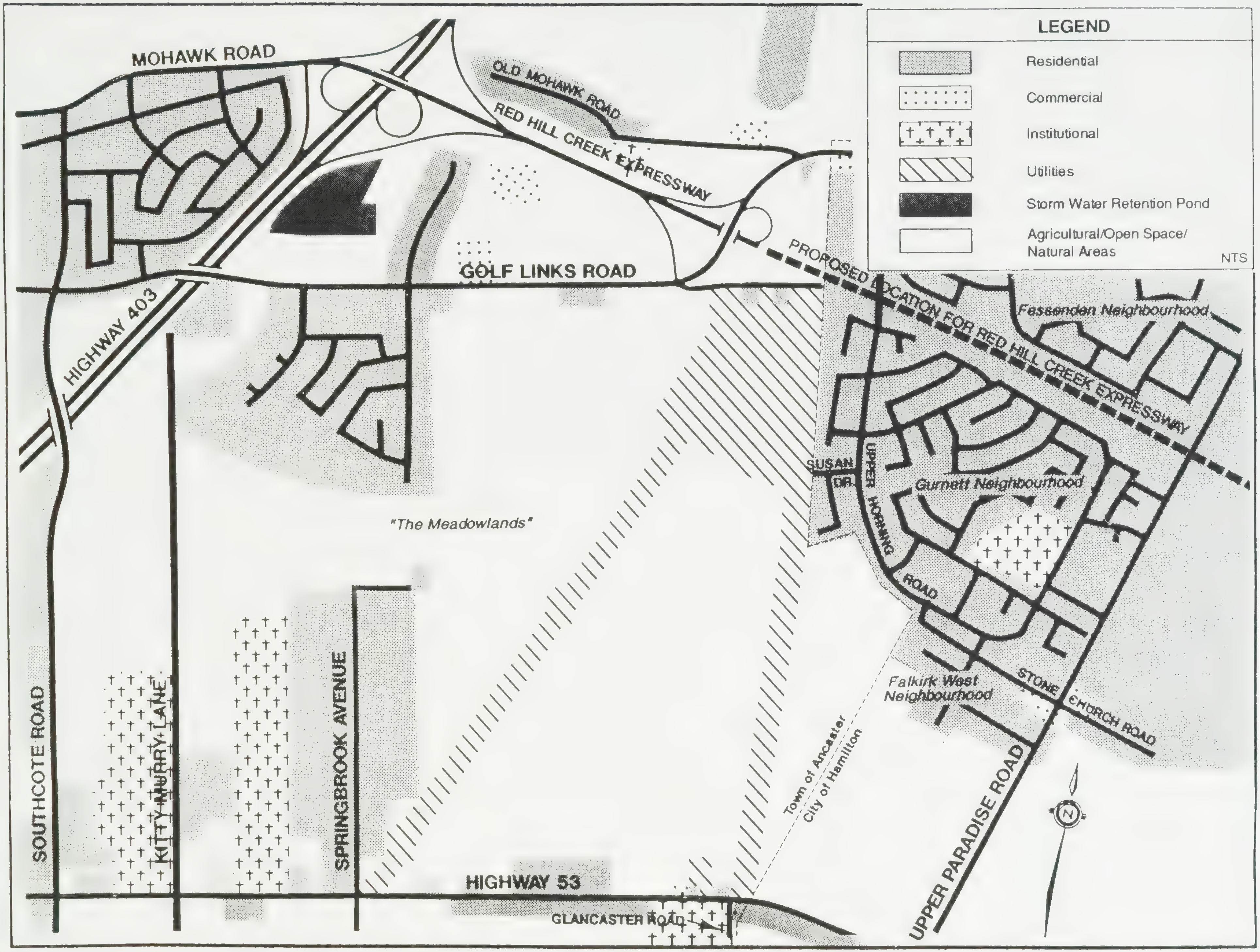


FIGURE 3.4 EXISTING LAND USE FEATURES

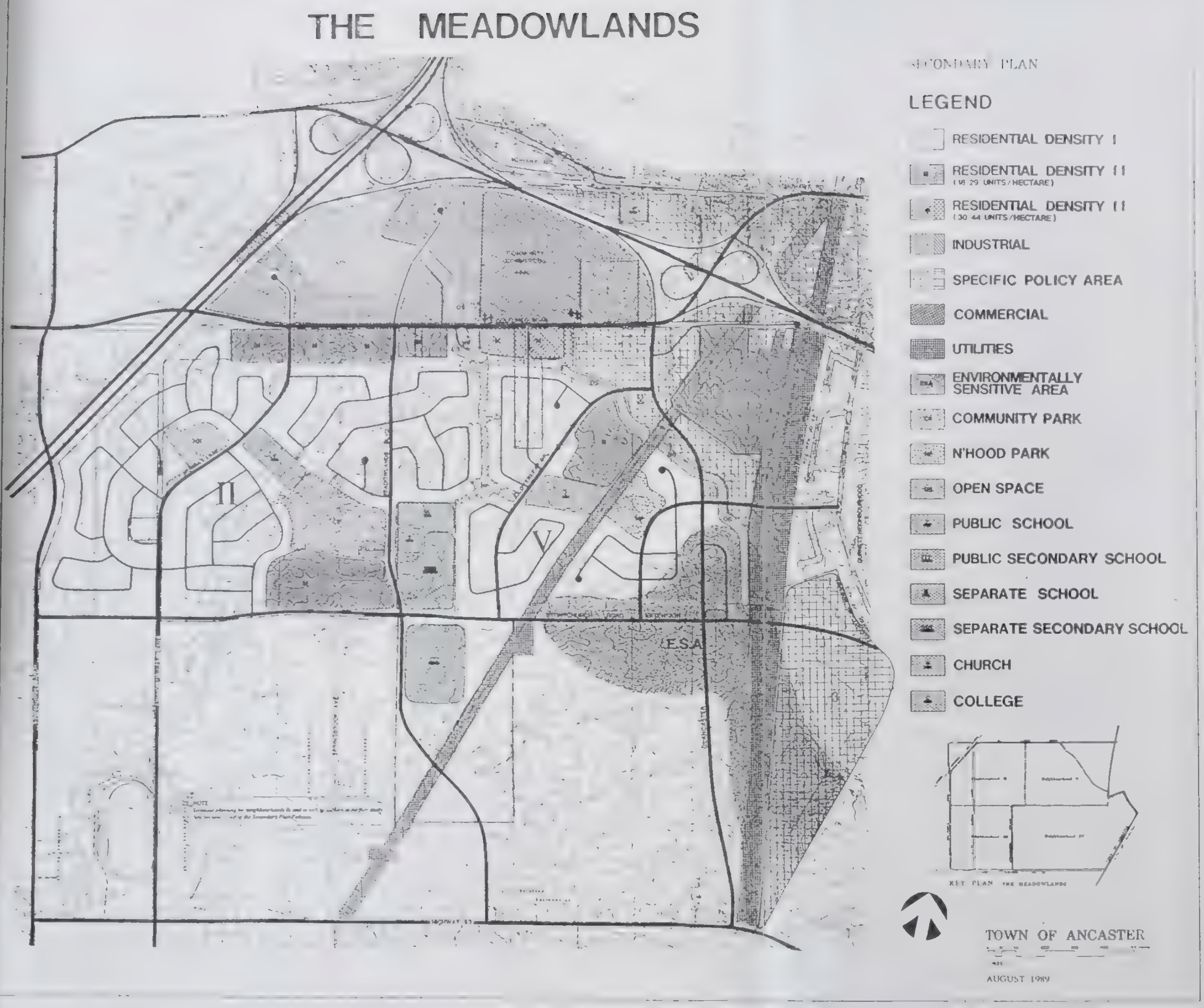


FIGURE 3.5
PROPOSED LAND USE

4.0 ALTERNATIVE SOLUTIONS

The evaluation of alternative solutions for providing alternate road access in the Meadowlands area, followed a procedure that allowed for:

- identifying alternative solutions to address the problem of providing adequate traffic and emergency services to and from the Gurnett neighbourhood, due to the closure of Upper Horning Road at the Red Hill Creek Expressway and to provide a more logical continuation of the arterial road system;
- notifying review agencies and the public of the study status, and to determine areas of interest and concern;
- establishing the natural, social, economic, technical, and cultural environmental criteria to evaluate the alternatives;
- assessing the impacts of each of the alternatives on the various environmental components;
- consulting with review agencies and the public concerning the impact assessment and preliminary evaluation of the alternatives;
- obtaining additional data and revising the impact assessment;
- evaluating the alternatives; and,
- selecting a preferred alternative.

4.1 Alternative Solutions

Four alternative solutions to the problem were identified. These were:

Alternative 1: Do Nothing

The "Do Nothing" alternative involves continuation of the status quo as planned, including the ongoing construction of the Red Hill Creek Expressway and the closure of Upper Horning Road in 1995. No new Regional roads would be provided.

Alternative 2: Widen or Improve Existing Road

Alternative 2 could be implemented by providing an overpass at Upper Horning Road at the Expressway. No new Regional roads would be provided. An amendment to the EA approval for the Red Hill Creek Expressway would be required.

Alternative 3: Limit Growth

Alternative 3 involves halting development and population growth in the Meadowlands area, in the Town of Ancaster. Upper Horning Road would still be closed as planned, and no new Regional roads would be provided.

Alternative 4: Provide New Roads

Alternative 4 involves the closure of Upper Horning Road as planned, along with the provision of Regional roads in the Meadowlands areas to accommodate planned development and the road closure.

4.2 Evaluation Factors

The following is a list of factors that were considered to compare the impacts of the alternative solutions:

Biological Factors:

- regionally significant vegetation
- regionally significant deer yard
- regionally significant birds (Cooper's Hawk)
- Class 3 wetland habitat

Physical Factors:

- headwaters of Tiffany Creek (hydrology)
- water quality

Social/Economic Factors:

- access from Gurnett neighbourhood to Red Hill Creek Expressway and Hwy. 403
- access to and from Meadowlands development
- emergency service routes - ambulance, fire department
- property
- noise

- community services - schools and colleges, hospitals, fire department, churches
- landscape aesthetics
- secondary planning
- commercial uses
- industrial uses
- housing supply
- usable road frontage (outside of ESA)

Transportation and Engineering Factors:

- regional road network
- local road network
- pedestrian access
- bicycle routes
- directness of bus routing between Ancaster and Hamilton
- location of bus recovery point
- ability to extend Glancaster Road south of Hwy. 53 in the future
- ability to provide a watermain backfeed to Meadowlands Boulevard
- provision of adequate traffic services
- ability to maintain expressway construction schedule

These factors were further refined upon the receipt of input solicited from review agencies, Study Team members, landowners, and the general public.

4.3 Impact Assessment

The impacts of the alternative solutions on the environmental components defined by the evaluation factors were assessed.

4.4 Review Agency and Public Consultation - Phase 1 and 2

4.4.1 Review Agencies

All regulatory agencies that had potential interest in the project were contacted at the outset of the study. The agencies contacted and input received is summarized in Table 4.1

Municipal agencies potentially affected by, or interested in, the project, were sent a memorandum dated January 29, 1992, to advise them of the project and to determine their level of involvement. Subsequent to the initial memorandum, the following offices were also notified:

- Programming and Development, Roads Department
  Region of Hamilton-Wentworth

- Planning Department
  Township of Glanbrook

Of the 18 municipal agencies contacted, 10 replied (refer to Table 4.1 for responses).

Provincial and utility agencies were contacted by letter dated February 10, 1992. These agencies were informed of the commencement of the project, were asked to provide comments on issues which they felt should be addressed throughout the Class EA and their level of involvement. Subsequent to the initial letter, the following agencies and public interest groups were also notified:

- LACAC
- Hamilton-Wentworth Region Roman Catholic Separate School Board of Education
- Hamilton Board of Education
- Wentworth County Board of Education
- Hamilton Hydro
- Ontario Hydro, Dundas Area
- Ancaster Conserver Society
- Hamilton Naturalists Club

Of the 24 other agencies and public interest groups contacted, 12 replied as detailed in Table 4.1. Copies of the memorandum, letters, and distribution list are included in Appendix A.

Agencies who requested active involvement through attendance at meetings, and/or an opportunity to comment on decisions made, became part of a Study Team. Meetings were held with members of the Study Team to update them on the environmental studies being conducted and to obtain input on the evaluation criteria.

4.4.2 Public

4.4.2.1 Landowners

Principal landowners in the Meadowlands were initially informed of the project at a meeting on May 12, 1992. All landowners requested that they be kept informed of the project and involved in the evaluation of alternatives. Maps of the study area and proposed alternative routes for new roads were provided. A follow-up meeting was held

TABLE 4.1

PHASE 1 AND 2 (INITIAL NOTICE): INPUT FROM REVIEW AGENCIES

Agency	Level of Involvement	Comments/Issues Raised	Action Taken
REGIONAL MUNICIPALITY OF HAMILTON-WENTWORTH			
Transportation Services Hamilton Street Railway (HSR)	active - want to comment on decisions - notify of PICs	• ensure roadway configurations facilitate transit service in an efficient manner, as well as the provision for a bus turn-around at the end of routes	• Study Team member • involved in the assessment and evaluation of alternative routes • notified of PICs
Environmental Services Environmental Planning Division	active - keep apprised of project status	• potential impact on designs for watermains and sewers in the Meadowlands area	• Study Team member • involved in the assessment and evaluation of alternative routes • notified of PICs
Local Planning Branch	active - keep apprised of project status - want to comment on decisions - notify of PICs	• noted that proposed road extensions provided for in current plans for the Gurnett and Falkirk West neighbourhoods	• Study Team member • no action necessary • involved in the planning and design process • notified of PICs
Regional Planning Branch	active - want to comment on decisions - will attend meetings	• ensure that the significance of the existing environment and planned environment considered	• Study Team member • environment and planned environment considered in the assessment and evaluation of alternative planning solutions and routes
Roads Department Programming and Development	active - keep apprised of project status - want to comment on decisions	• interest in establishment of a Regional road network	• Study Team member • involved in the planning and design process

TABLE 4.1 (cont'd)

PHASE 1 AND 2 (INITIAL NOTICE): INPUT FROM REVIEW AGENCIES

Agency	Level of Involvement	Comments/Issues Raised	Action Taken
Health Department	no response		• removed from project mailing list
Economic Development Department	no response		• removed from project mailing list
Police Department	no response		• removed from project mailing list • input subsequently sought on proposed Susan Drive extension re: the need/requirements for effective emergency services/ response during Phase 2a
CITY OF HAMILTON Fire Department	active - keep apprised of project status	• involved in mapping project for the City and surrounding Fire Departments	• no action necessary • minutes of Study Team meetings provided • notified of PICs
Culture and Recreation Department	no response		• removed from project mailing list
Public Works Department	no response		• removed from project mailing list
Traffic Department	no response		• removed from project mailing list • subsequently informed of concerns raised by a resident regarding impacts of heavy truck movements on Upper Horning Road

TABLE 4.1 (cont'd)

PHASE 1 AND 2 (INITIAL NOTICE): INPUT FROM REVIEW AGENCIES

Agency	Level of Involvement	Comments/Issues Raised	Action Taken
TOWN OF ANCASTER			
Planning Department	active - want to comment on decisions - will attend meetings	• significant effects on Secondary Plans in the Meadowlands area	• Study Team member • involved in the planning and design process
Engineering Department	active - keep apprised of project status		• requested attendance at meetings on specific issues • minutes of Study Team meetings provided • notified of PICs
Fire Department	no response		• maintained on project mailing list • notified of PICs
Public Works Department	keep informed		• project status updates provided through PIC notifications
Parks and Recreation Department	no response		• maintained on project mailing list • notified of PICs
TOWNSHIP OF GLANBROOK			
Planning Department	active - keep apprised of project status	• ensure consideration given to a future southerly extension of Glancaster Road	• requested attendance in planning discussions • considered extension in Phase 2a • minutes of Study Team meetings provided • notified of PICs

TABLE 4.1 (cont'd)

PHASE 1 AND 2 (INITIAL NOTICE): INPUT FROM REVIEW AGENCIES

Agency	Level of Involvement	Comments/Issues Raised	Action Taken
PROVINCIAL, UTILITY, AND OTHER AGENCIES Ministry of Culture, Tourism, and Recreation Development Plans Review Unit	keep informed	• concerns relate to the potential for finding cultural heritage resources • recommend that an archaeological survey be conducted as part of the Class EA • cannot comment on significance of cultural heritage factors considered until receipt of archaeological assessment report	• archaeological assessment carried out by consultant • Archaeological Assessment Report submitted to the Ministry 16 October 1992 • project status updates provided through PIC notifications
Ministry of Culture, Tourism, and Recreation Heritage Branch	no response		• maintained on project mailing list • notified of PICs
Ministry of Culture, Tourism, and Recreation Southern Region (Tourism)	none requested		• removed from project mailing list
Ministry of the Environment and Energy Policy Development and Coordination Division (Energy)	none requested	• interested in EAs related to: energy, mass transit, major highways, waste management, and land use planning only	• removed from project mailing list

TABLE 4.1 (cont'd)

PHASE 1 AND 2 (INITIAL NOTICE): INPUT FROM REVIEW AGENCIES

Agency	Level of Involvement	Comments/Issues Raised	Action Taken
Ministry of the Environment and Energy Approvals and Planning Section	keep informed	• interested in the detailed design and construction stage • local conservation authority able to address storm water management issues • not concerned with increased noise if project does not affect existing subdivisions • requested copy of draft ESR for their technical review	• copy of draft ESR sent • project status updates provided through PIC notifications • copies of PIC notices/flyers and Information Packages sent to EA coordinator
Ministry of Housing Land Development Group	no response		• removed from project mailing list
Ministry of Municipal Affairs Plans Administration Branch	no response		• removed from project mailing list
Ministry of Natural Resources Central Region	no response		• removed from project mailing list

TABLE 4.1 (cont'd)

PHASE 1 AND 2 (INITIAL NOTICE): INPUT FROM REVIEW AGENCIES

Agency	Level of Involvement	Comments/Issues Raised	Action Taken
Ministry of Natural Resources Cambridge District	active - keep apprised of project status - want to comment on decisions - notify of PICs	• concerned with forestry, fisheries, wetlands, wildlife, watercourses, environmentally sensitive area(s), and other ecological features • recommended an assessment of the on-site features because of unknowns regarding the wetland; the deer wintering trails/corridor; and, Tiffany Creek	• Study Team member • environmental studies carried out: - evaluation of the Tiffany Creek Headwaters Wetland carried out by consultant - fisheries assessment conducted by consultant • classification of wetland (draft) identified as Class 3 (provincially significant) - still to be verified by the Ministry • involved in the assessment and evaluation of alternatives • notified of PICs
Hamilton Region Conservation Authority	active - will attend meetings	• concerned with the protection of the Ancaster Creek Headwaters Environmentally Sensitive Area • ensure development does not impact floodplain	• Study Team member • hydrology study conducted by consultant • involved in the assessment and evaluation of alternatives
Ministry of Transportation District #4 (Burlington)	no response		• maintained on project mailing list • notified of PICs

TABLE 4.1 (cont'd)

PHASE 1 AND 2 (INITIAL NOTICE): INPUT FROM REVIEW AGENCIES

Agency	Level of Involvement	Comments/Issues Raised	Action Taken
Hamilton-Wentworth Roman Catholic Separate School Board of Education	keep informed	• interested in location of arterial and collector roads in relation to the locations and boundaries of future elementary and secondary schools	• project status updates provided through PIC notifications
Hamilton Board of Education	none	• Hamilton Board have no buildings/property within the immediate study area	• removed from project mailing list
Wentworth County Board of Education	keep informed		• project status updates provided through PIC notifications
Bell Canada	keep informed	• buried cable at the end of Susan Drive will have to be relocated prior to construction of a Susan Drive extension	• project status updates provided through PIC notifications • plan profiles forwarded for review
Hamilton Hydro	keep informed	• contact during detail design prior to construction	• project status updates provided through PIC notifications • plan profiles forwarded for review
Ontario Hydro Niagara River Hydroelectric Development Project	no response		• maintained on project mailing list • notified of PICs

TABLE 4.1 (cont'd)

PHASE 1 AND 2 (INITIAL NOTICE): INPUT FROM REVIEW AGENCIES

Agency	Level of Involvement	Comments/Issues Raised	Action Taken
Ontario Hydro Design and Development Division - Transmission	keep informed	• requested that their facilities in the study area be given due consideration • confirmed the presence of one transformer and three transmission lines within the study area • clearances required to access and maintain Ontario Hydro facilities to be provided upon receipt of design details	• project status updates provided through PIC notifications • locations of Ontario Hydro facilities verified in the field • preliminary design details showing the location and elevation of the proposed road in relation to the Ontario Hydro facilities forwarded for review
Ontario Hydro Dundas Area	keep informed	• plans to service the Meadowlands area along the proposed extensions of Glancaster Road and Stone Church Road in the future	• project status updates provided through PIC notifications • plan profiles forwarded for review
TransCanada Pipelines Limited	keep informed	• possess right-of-way in the study area • requested preliminary design drawings to determine the exact elevations of their pipelines	• project status updates provided through PIC notifications • plan profiles forwarded for review
Union Gas Limited	keep informed	• provided information on plant location within the study area	• project status updates provided through PIC notifications • plan profiles forwarded for review

on October 15, 1992 to provide the landowners with an update of the environmental studies that were conducted, and to invite comments on the evaluation criteria.

Table 4.2 summarizes the issues raised by the landowners and the Region's responses and/or follow-up actions.

4.4.2.1 Public Information Centres - October 19 and 21, 1992

The impact assessment and preliminary evaluation of the alternative solutions were presented to the general public and interested review agencies at Public Information Centres (PICs) held on October 19 and 21, 1992.

The Study Team was notified of the PICs at meetings prior to October, 1992. Landowners were notified by a letter dated September 28, 1992. A memorandum regarding the first PICs was circulated to Regional Council on October 2, 1992.

Brochures with an invitation to the PICs were mailed to Ancaster residents in the Meadowlands and vicinity and hand delivered to homes in the Hamilton neighbourhoods of Fessenden, Gurnett and part of Gilkson on October 15, 1992.

Notices of the PICs were published in the following newspapers:

- Hamilton Spectator, October 7 and 10, 1992;
- Hamilton Mountain News, October 7 and 14, 1992; and,
- Ancaster News, October 7 and 14, 1992.

Copies of the notification letters and distribution list, project brochures, and newspaper notice are included in Appendix B.

The PICs were attended by approximately 55 people. The public raised and discussed a number of issues. General comments that were expressed at the PICs included strong support for the closure of Upper Horning Road and the proposed extensions to Glancaster Road, Stone Church Road, and Susan Drive. Completed comment sheets received at, and following, the PICs are in Appendix B. Table 4.3 summarizes the issues that were raised by the public and the Region's responses and/or follow-up.

4.5 Evaluation of Alternative Solutions

The evaluation examined the extent to which the alternative solutions solve the problem, and the advantages and disadvantages of the each of the alternatives. A summary of the evaluation of each of the alternative solutions is provided below and in Table 4.4.

4.5.1 Do Nothing

"Do nothing" would have no new impact on the natural and physical environmental features in the study area. The existing green space along Tiffany Creek and the residential character of the Gurnett neighbourhood would be maintained.

Since Upper Horning Road will be closed as planned, the primary disadvantage of "do nothing" is that there will be no major secondary access to and from the Gurnett neighbourhood, which is of importance for emergency vehicle service. This alternative would also increase travel time and distance for trips by local residents. A turnaround point for transit routes would be less convenient for service. This alternative would also conflict with the Meadowlands Secondary Plan for development.

4.5.2 Widen or Improve Existing Road

An option considered for improving the existing road system would be to provide an overpass for Upper Horning Road at the Expressway. However, the Gurnett neighbourhood has been developed on the assumption that Upper Horning Road will be closed.

Maintenance of existing vehicular traffic patterns in the Gurnett neighbourhood may also be considered a disadvantage in that Upper Horning Road, which is designated as a local road, would continue to act as an arterial road. The traffic infiltration and associated safety issues expressed by the residents and noise would continue, and could potentially increase. There would be a large cost involved in building an overpass and incorporating this alternative into the Expressway scheduling. Additional property would be required for construction. Additionally, this alternative would conflict with the secondary plans of the City of Hamilton and the Town of Ancaster and previous EA approvals.

In summary, while considered, this option is essentially not practical as the area has been planned on the basis of there not being an overpass in place.

TABLE 4.2

PHASE 2: RESPONSES TO ISSUES RAISED BY LANDOWNERS

Issue Raised	Response/Action Taken
• loss of developable land due to wetlands preservation; methods for compensating landowners	• Town will be investigating this issue as part of the Secondary Planning process for the Meadowlands area • provided mapping of wetland and ESA boundaries (draft) • Region and wetland consultant met with landowners on site to explain wetlands boundaries issue
• ability to develop land adjacent to the proposed Regional roads should be considered in the evaluation	• land use compatibility a factor in the evaluation of road alternatives
• impact of road routes with respect to property owned	• provided mapping of proposed road alternatives, including property

TABLE 4.3

PHASE 2: RESPONSES TO ISSUES RAISED AT THE OCTOBER 1992 PUBLIC INFORMATION CENTRES (#1)

Issue Raised	Response/Action Taken
TECHNICAL	
• request pedestrian walkway over the Expressway at Upper Horning Road	• the Ministry of Transportation subsidizes the cost for pedestrian crossings based on minimum usage by 300 people • existing nearby walkway at Magnolia and Guildwood Drives used by approximately 300 people • pedestrian traffic counts carried out by the Region indicate that approximately 78 people use the Upper Horning Road crossing in peak am and pm hours • suggested walkway would require a large number of stairs and very long wheelchair ramp due to the topography of the road • best location for a pedestrian walkway determined to be at Magnolia and Guildwood Drives
• staging and construction of Glancaster Road, Stone Church Road, and Susan Drive critical; Glancaster Road, Stone Church Road, and Susan Drive extensions should be completed at the same time; priority should be given to extending Stone Church Road to Glancaster Road; Susan Drive extension needed	• at this point in the study, where to build roads has not been determined • input received from the public and review agencies will be considered in evaluation of alternatives (Phase 2a) • Region will have to balance the timing of the Upper Horning Road Closure and the ability to provide alternate access within the Expressway construction schedule
• suggest Stone Church Road join Southcote Road at John Frederick Drive	• Region looked into the feasibility of connecting Stone Church Road to an existing road (Phase 2a)
• need better left turn lights at Mohawk Road and Upper Horning Road in the interim	• advised the City's Traffic Department of the need to examine the timing of the lights
• eliminate heavy truck and car traffic on Upper Horning Road, suggest increased police inspection of heavy trucks; need weight restriction on Upper Horning Road, as foundation of new homes cracking	• informed the City's Traffic Department about concerns of heavy truck traffic and car traffic on Upper Horning Road

TABLE 4.3 (cont'd)

PHASE 2: RESPONSES TO ISSUES RAISED AT THE OCTOBER 1992 PUBLIC INFORMATION CENTRES (#1)

Issue Raised	Response/Action Taken
• proposed Glancaster Road extension may be used as a highway to Caledonia via Twenty Road/Dickenson Roads	• road location for the proposed Glancaster Road extension not yet selected • construction will be staged • advised that the Ministry of Transportation is in the detail design stages for the extension of Highway 6 (from Highway 403 to Caledonia)
ENVIRONMENTAL	
• significance of the ESA?	• ESA assessed by consultants to determine its significance
• preservation of green space and wildlife species important; consideration should be given to the wetlands; existing open space should be enhanced to further its recreational value	• preservation of green space (including wetlands, ESA) and wildlife are factors considered in the evaluation of alternatives • involved Ministry of Natural Resources and the Hamilton Region Conservation Authority staff in the evaluation
• concern with the demise of natural areas due to potential development in the Meadowlands area	• Meadowlands area designated as Urban land use in the Town's Official Plan • Town will determine appropriate land uses for the Meadowlands area • recommend that concerns be relayed to the Town's Planning Department
• need to find balance between protection of the environment and the socio-economic needs of the area	• Class EA process requires that all aspects of the environment (natural, social, economic, technical) be considered in weighing the advantages and disadvantages of the proposed project and its potential for impact • environmental studies carried out to determine where impacts will be minimal
• recommend study showing surface water natural drainage from Springbrook Drive	• drainage is a factor in the evaluation of alternatives to help determine the best location for the road(s)

TABLE 4.3 (cont'd)

PHASE 2: RESPONSES TO ISSUES RAISED AT THE OCTOBER 1992 PUBLIC INFORMATION CENTRES (#1)

Issue Raised	Response/Action Taken
LAND USE	
• Secondary Plan should be initiated for the southern portion of the Meadowlands area in conjunction with this Class EA - relate land uses with road networks - request the Town and/or Region to initiate process	• Regional Roads Department has no jurisdiction to initiate the Secondary Planning process • Region will participate in the process by ensuring information collected through this Class EA is made available • recommended contact with the Town's Planning Department
SOCIAL	
• safety for pedestrians on Stone Church Road, Susan Drive as it relates to possible increases in traffic volume	• the number of lanes and type of pedestrian crossings will be looked at in detail after the selection of the road location
• concern with proximity of proposed Stone Church Road extension to home	• preliminary examination of proposed extension indicated that none of the alternatives shown would be closer than 90 metres to closest property boundary • more precise measurements will be available when the preliminary design is developed
• need to have visual barriers north of Springbrook Avenue to separate Springbrook Avenue from Stone Church Road	• committed to looking at this issue in detail design, following the selection of the road location and preliminary design
OTHER	
• take home materials would have been useful	• at upcoming PICs, information brochures were provided to the public as suggested

TABLE 4.4

COMPARISON OF ALTERNATIVE SOLUTIONS

1. DO NOTHING (close Upper Horning Road) Advantages • no impact on natural and physical environmental features in Meadowlands • maintains green space adjacent to Tiffany Creek • residential character of Gurnett neighbourhood maintained Disadvantages • no secondary access to/from West Gurnett neighbourhood • less convenient turnaround for transit • does not support Meadowlands Secondary Plan • extends travel time and distance • increases traffic on existing roads • no secondary emergency access for West Gurnett	**3. LIMIT GROWTH** Advantages • no Regional roads required in Meadowlands • no impacts on natural and physical environmental features • maintains green space in Meadowlands Disadvantages • may result in fewer services and reduced infrastructure for Meadowlands • requires major changes to Secondary Plans • does not address secondary emergency service access to West Gurnett neighbourhood
2. IMPROVE EXISTING ROAD (overpass at Upper Horning Road) Advantages • minimal impact on natural and physical environmental features adjacent to Upper Horning Road • maintains pedestrian/vehicular traffic (may also be considered a disadvantage) • maintains green space in Meadowlands Disadvantages • does not support Secondary Plan in Hamilton or Meadowlands • traffic noise and infiltration continues • goes against the Red Hill Creek Expressway EA and OMB hearings • local road (Upper Horning) continues to act as an arterial road • large cost to build overpass and incorporate into Expressway scheduling • property required	**4. PROVIDE NEW ROADS** Advantages • provides an arterial road replacement for Upper Horning Road • provides a secondary emergency service access for West Gurnett • provides opportunities for development in Meadowlands • supports Meadowlands and Hamilton Secondary Plan • traffic infiltration in Gurnett neighbourhood is reduced Disadvantages • impacts natural environmental features in Meadowlands • property required archaeological work may be required (may also be considered an advantage due to identification and documentation) • large cost (staged over a number of years)

4.5.3 Limit Growth

Regional roads would not be required if development and population growth was limited in the Meadowlands. This alternative would have minimal impact on the natural or physical environment in the study area, and would maintain the existing green space along Tiffany Creek.

To limit growth in the Meadowlands may result in fewer services and reduced infrastructure. This would require major changes to the Secondary Plan of the Town of Ancaster which includes approved development and growth in the Meadowlands area following public consultation and an Ontario Municipal Board (OMB) Hearing. Another important disadvantage to this alternative is that it would not provide the major secondary access to and from the Gurnett neighbourhood, which is of specific importance for emergency vehicle service and for continuity of the Regional Road system.

4.5.4 Provide New Roads

New roads would provide a regional arterial replacement for Upper Horning Road. Traffic infiltration and noise from through traffic in the Gurnett neighbourhood would be reduced as all traffic would be local. A major secondary access route would also be provided by new roads. The provision of new roads in the Meadowlands supports the Secondary Plans of the City of Hamilton and in the Meadowlands area, in Ancaster.

The provision of new roads would impact the natural and physical environmental features of the study area. Property would be required as well as costs associated with construction, although this may be staged over a number of years. In addition, further archaeological investigations may be required. Archaeological investigations may also be considered an advantage due to the identification and documentation and potential recovery of resources that would be undertaken.

4.6 Selection of Preferred Alternative Solution

Following the PICs and consultation with the review agencies and public, a preferred alternative was selected. Generally, support from both the review agencies and the public for Alternative 4: Provide New Roads, indicated that this was the preferred solution. Local area residents also expressed a strong desire for both improvements in the road system and relief of traffic congestion on Upper Horning Road.

The advantages of this solution are:

- addresses the problem of a major secondary access to and from the Gurnett neighbourhood with regards to the closure of Upper Horning Road, which is of specific importance for emergency vehicle service;
- allows Upper Horning Road to function as a local road, thereby reducing the number of vehicles and level of noise in this neighbourhood; and
- supports the Official Plan and Secondary Plans of both the City of Hamilton and the Town of Ancaster.

Outstanding concerns that were associated with the preferred alternative solution included:

- the need to avoid impacts on the environmentally sensitive area and wetland complex;
- the ability to develop land adjacent land to the proposed roads; and
- the impact of road routes with respect to property owned.

These issues would be subsequently addressed in the selection of the preferred route and roadway design.

5.0 ALTERNATIVE ROUTE LOCATIONS

5.1 Alternative Route Locations

The evaluation of alternative solutions to the problem concluded that the best overall solution was to provide new roads to service the existing and projected traffic. In Phase 2a, alternative route locations were identified, impacts assessed and the routes evaluated to arrive at a preferred route network in the Meadowlands.

Existing potential road connection points in the study area include:

- Golf Links Road/Mohawk Road interchange to the north;
- Stone Church Road and Susan Drive to the east;
- Highway 53, at or near Glancaster Road to the south; and,
- John Frederick Drive and Calder Street area to the west.

A number of potential routes were identified to service travellers from these possible connection points in the north, south, east and west of the study area. Prior to UMA Engineering Ltd. joining the Project Team in January, 1993, the Region of Hamilton-Wentworth had developed four Stone Church Road alternative extensions and four Glancaster Road alternative extensions, which included a Susan Drive extension. As new information became available with regard to the natural, technical, socio-economic and cultural environments, UMA Engineering revised and/or abandoned the eight alternatives with the aim of minimizing the overall environmental impacts. The previously documented draft Secondary Plan alignment for the road network in the Meadowlands was not considered further as it had been derived prior to any environmental data being collected (i.e., it was the shortest and straightest route). The alignment did not address impacts on the wetland and ESA.

The final route alternatives considered are described below. In order to simplify the large number of possible alternative routes, the alternatives were divided into east-west and north-south routes. This approach enables the best east-west route and the best north-south route to be selected, and therefore, a best overall network.

5.1.1 East-West Alternative Routes

The east-west alternative routes are illustrated in Figure 5.1. All east-west alternatives were subdivided on either side of Springbrook Avenue. The east section comprises the segment of road through or adjacent to the ESA The west section includes three alternative tie-in points at Southcote Road. Any east section can be combined with any west section with minimum adjustments to provide the full east-west alternative.

The east section alternatives include:

Concept A:
Re-examination of the potential traffic requirements in the area indicated that the predominant traffic movement would be between Stone Church Road and Golf Links Road at the Expressway exit ramp. This new alternative was therefore developed to directly connect these two points. Unlike the other direct east-west route alternatives, Concept A would create a T-intersection north of the ESA. Concept A could include a Susan Drive extension.

Concept B:
Concept B provides a direct east-west extension of Stone Church Road. The environmental impact is minimized by crossing in the north section of the ESA.

Concept C:
Concept C also provides a direct east-west extension of Stone Church Road. Concept C is curved to the south and bisects the ESA between the two major wooded areas.

The west section of the east-west alternative routes are named for the location of their intersection with Southcote Road. Any of the following connection points could utilize an alignment adjacent to the existing Springbrook Avenue or a similar alignment north of the Springbrook Avenue right-of-way. The west section alternatives include:

Calder Option:
The Calder Option connects at the existing T-intersection of Calder Street and Southcote Road.

Middle Option:
The Middle Option connects at a new T-intersection along Southcote Road between Calder Street and John Frederick Drive.

John Frederick Option:
The John Frederick Option connects at the existing T-intersection of John Frederick Drive and Southcote Road.

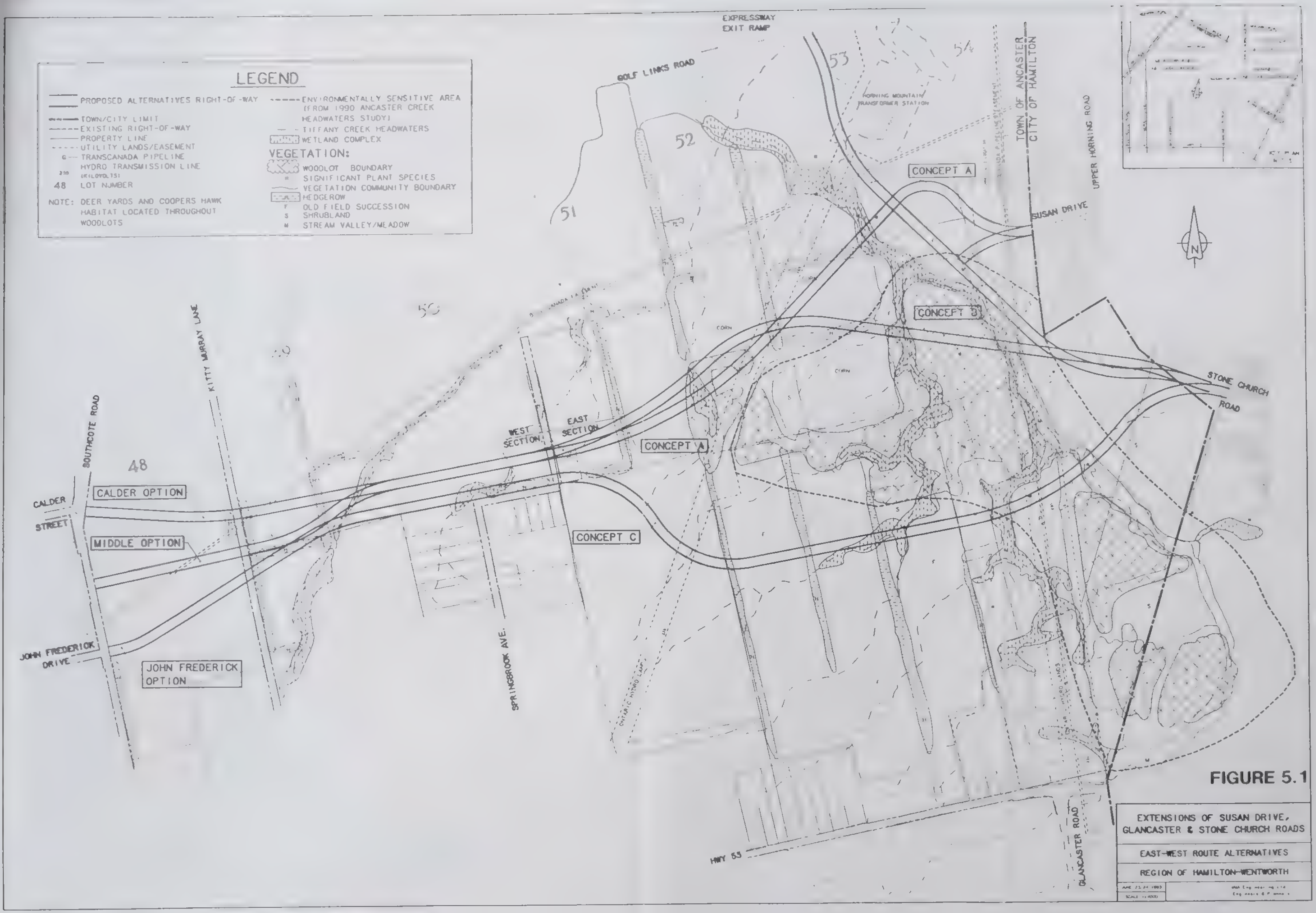


FIGURE 5.1

EXTENSIONS OF SUSAN DRIVE, GLANCASTER & STONE CHURCH ROADS

EAST-WEST ROUTE ALTERNATIVES

REGION OF HAMILTON-WENTWORTH

5.1.2 North-South Alternative Routes

The north-south alternative routes are illustrated in Figure 5.2. Generally, there are two alternatives to the north: Concept 1 and Concept 2, both with a potential Susan Drive connection. There are three alternative connection points to the south along Highway 53. They are:

- Highway 53 West Connection;
- Highway 53 East Connection; and,
- Glancaster Connection.

The Glancaster Connection intersects Highway 53 at Glancaster Road. The other two connections are located to the west of Glancaster Road as shown on Figure 5.2. Concept 1 and Concept 2 can be combined with each of the three alternative connection points to the south. The resulting six possible north-south alternative routes are described below.

Concept 1 and Highway 53 West Connection:
This alternative links Concept 1, which traverses the west section of the ESA, with the most westerly connection along Highway 53.

Concept 1 and Highway 53 East Connection:
This alternative links Concept 1, which traverses the west section of the ESA, with the more easterly connection along Highway 53.

Concept 1 and Glancaster Connection:
This alternative links Concept 1, which traverses the west section of the ESA, with the existing T-intersection of Glancaster Road and Highway 53.

Concept 2 and Highway 53 West Connection:
This alternative links the Concept 2 alignment, which avoids the ESA to the west, with the most westerly connection along Highway 53.

Concept 2 and Highway 53 East Connection:
This alternative links Concept 2, which avoids the ESA to the west, with the more easterly connection along Highway 53.

Concept 2 and Glancaster Connection:
This alternative links Concept 2, which avoids the ESA to the west, with the existing T-intersection of Glancaster Road and Highway 53.

5.2 Evaluation Criteria

Detailed evaluation criteria were developed to assess and evaluate the impacts of the various route alternatives. Refinements and revisions to the evaluation criteria were made following the review and input provided by the Study Team, the landowners, and the public during Phase 2. Table 5.1 lists the evaluation criteria and the measures utilized for the assessment. The seven main issues covered by the criteria include:

- natural environment;
- traffic issues;
- engineering issues;
- land use issues;
- community issues;
- cultural issues; and,
- cost.

5.3 Impact Assessment

The preliminary impact assessment and evaluation of each of the alternative route locations was based on the evaluation criteria. The evaluation consisted of a narrative description outlining the systematic evaluation of the potential effects and trade-offs (quantitative where possible), as well as a pie-ranking matrix to illustrate the evaluation.

Subsequent to the preliminary impact assessment and evaluation, input was solicited from the agencies and public and incorporated into the evaluation.

Detailed assessments of the east-west route and north-south alternatives were completed. Factors for which there were significant differences in impacts between the alternatives and were thus key in determining the preferred routes, were called Critical Determining Factors, and are summarized later in Section 5.5. The preliminary assessment of the alternative route locations is described in Sections 5.3.1 (East-West Routes) and 5.3.2 (North-South Routes).

5.3.1 East-West Alternative Routes

Concept A

- impact on Class 3 (provincially significant) wetland (2 wetland crossings)
- marginal localized severance at the northeast tip of the ESA
- impacts 3 hedgerows and one smaller woodlot outside of the ESA
- impact on hydrological functions minimal
- provides adequate traffic service

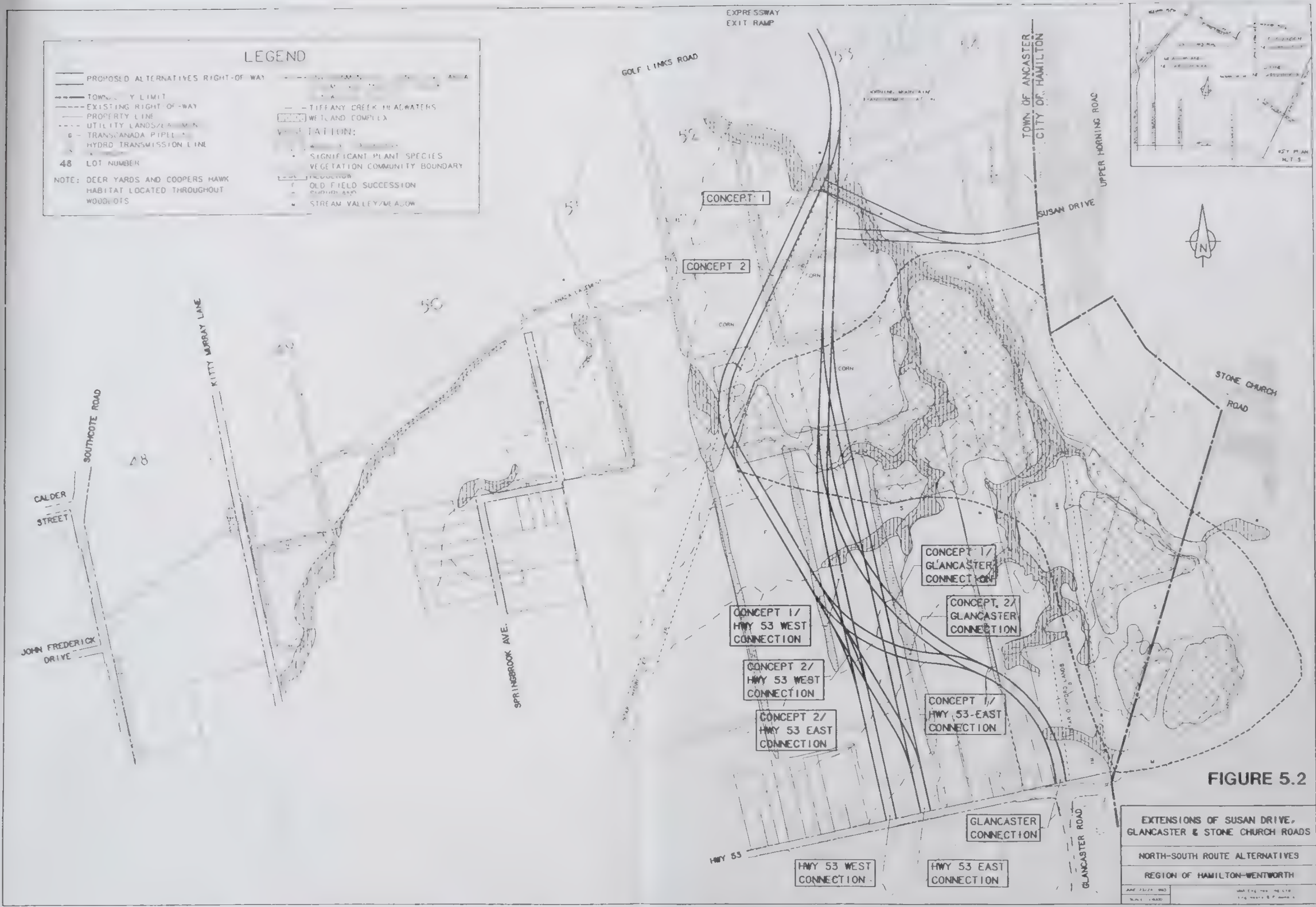


FIGURE 5.2

EXTENSIONS OF SUSAN DRIVE, GLANCASTER & STONE CHURCH ROADS

NORTH-SOUTH ROUTE ALTERNATIVES

REGION OF HAMILTON-WENTWORTH

TABLE 5.1

IMPACT ASSESSMENT CRITERIA

ISSUE	CRITERION	MEASURE
1. NATURAL ENVIRONMENT		
a) Class 3 Wetland	• Significant biological features	• significant plants affected e.g. Hawthorn, Bush Clover, Virginia Mint
		• Cooper's Hawk affected
		• deer yard affected
	• Wetland components	• number of components severed (fragmentation) or eliminated
	• Fisheries	• net loss of fish productivity capacity
b) Environmentally Sensitive Area (ESA) #23	• ESA integrity	• degree of severance, minor (periphery) or major (fragmentation)
	• Significant hedgerow linkage features	• effect on significant features
c) Hydrological Functions	• Wetland: - minimize change in base flow	• % change in base flow
	- minimize change in storage	• reduction in storage
	• Floodplain: no alteration to floodplain	• number of stream crossings
		• impact to floodplain
	• Runoff: - minimize change in peak flow	• % change in downstream erosion
		• % difference between available pipe capacity
	- quality of runoff water	• % change in runoff water quality
	• Recharge/Discharge Function: maintenance of recharge areas	• % impact on recharge potential
d) Soils	• Erodible soils	• area of high potential to contribute sediment downstream
	• Steep Slopes (1:1 horizontal to vertical slopes)	• area of steep slopes
	• Type and strength of soils	• adequacy of soils to support roadway

TABLE 5.1 (cont'd)

IMPACT ASSESSMENT CRITERIA

ISSUE	CRITERION	MEASURE
2. TRAFFIC		
a) Traffic Services	• Provision of adequate traffic services	• volume/capacity ratio
b) Access	• Access from Gurnett Community (Susan Drive) to Golf Links Road intersection at Red Hill Creek Expressway	• estimated total travel time
	• Access to and from Meadowlands Development	• estimated total travel time from development to Expressway and 403
	• Emergency Service Routes - hospitals, fire department	• estimated total travel time
c) Transit Route Compatibility	• Directness of bus routing between Meadowlands and Hamilton	• ability to service developable land
	• Location of bus recovery point	• ability to provide bus recovery road in short term
d) Future Glancaster Road Extension	• Ability to extend Glancaster Road south of Highway 53	• estimated $ value (1993 $) for new road
		• potential to change land use
3. ENGINEERING		
a) Design	• Route length	• metres
	• Percentage of route on a curve	• %
	• Greater than 3% vertical grade	• %
	• Compatibility with Glancaster/Stone Church/Susan Drive extensions	• grade at intersection
		• intersection angle
b) Staging / Flexibility	• Ability to maintain construction schedule	• estimated time delay (months)
c) Utility Conflicts	• Ontario Hydro lines	• length of relocation
	• TransCanada Pipelines	• length of relocation
	• Bell Canada	• length of relocation
	• Watermain backfeed to Meadowlands Boulevard	• ability to provide watermain within right-of-way

TABLE 5.1 (cont'd)

IMPACT ASSESSMENT CRITERIA

ISSUE	CRITERION	MEASURE
4. LAND USE		
a) Future Land Use	• Commercial, industrial and residential development opportunities	• hectares of new development area
	• Usable road frontage (outside ESA and wetland)	• length of usable road frontage
	• Walking paths / Bicycle route	• length required to provide route through area
		• connectivity with greenspace along Tiffany Creek and associated valley stream
b) Secondary Plans	• Compatibility with secondary plans	• compatibility with subdivision approvals and neighbourhood plans
c) Present Land Use	• Recreational uses	• recreational area displaced/disrupted
	• Commercial uses	• number of commercial uses directly impacted
	• Industrial uses	• number of industrial uses directly impacted
d) Property	• Area required	• hectares
	• Dwellings directly affected	• number of houses removed
	• Properties directly affected	• number of houses adjacent to road
		• number of properties within the road right-of-way
5. COMMUNITY		
a) Noise	• Typical noise level in 2004 (10 years after construction)	• decibels (dBA)
b) Landscape Aesthetics	• From existing residential areas	• scenic views (good/fair/poor)
c) Community	• Services affected - schools/colleges, churches	• number of services directly impacted
	• Impact from additional north-south, and east-west arterial/collector	• change in traffic volume in residential areas

TABLE 5.1 (cont'd)

IMPACT ASSESSMENT CRITERIA

ISSUE	CRITERION	MEASURE
6. CULTURAL		
a) Archaeological	• Archaeological sites	• number of sites within right-of-way
	• Archaeological potential for sites	• high, medium, low
b) Heritage Features	• Heritage features and cultural landscapes, e.g. structures	• number of heritage features affected
7. COST		
a) Cost	• Estimated cost of route alternatives	• $ value (1993 $)
	• Estimated cost of overall route network	• $ value (1993 $)

- less efficient in terms of traffic movements (2 T-intersections)
- route length 3041 m (Stone Church Road to Golf Links Road - 1478 m; East Section - 1564 m) with feasible engineering design
- greatest length of potentially usable road frontage (excluding wetlands) for future development opportunities (5132 m)
- revisions to Secondary Plans needed
- requires 9.1 ha (Stone Church Road to Golf Links Road - 4.4 ha; East Section - 4.7 ha)
- crosses 6 properties
- 4 houses adjacent to road
- has an estimated cost of $2.4 million including $1.25 million for the East Section (comparable to Concept B and C) and $1.15 million for the northern connection from Stone Church Road to Golf Links Road. The estimated cost of the overall road network is $4.4 to $4.5 million.

Concept B

- impact on Class 3 wetland (3 crossings)
- severs northern edge of the ESA
- impacts 3 hedgerows and one smaller woodlot outside of the ESA
- impact on hydrological functions minimal
- provides adequate traffic service
- provides efficient traffic movements (1 four-way intersection)
- shortest route length (1808 m) with feasible engineering design
- shortest length of potentially usable road frontage (excluding wetlands) for future development opportunities (1754 m)
- revisions to Secondary Plans needed
- requires 5.4 ha
- crosses 6 properties
- 4 houses adjacent to road
- has an estimated cost of $1.4 million; estimated cost of overall road network is $4.5 to $4.8 million.

Concept C

- impact on Class 3 wetland severe (3 crossings fragment wetland core)
- severs ESA core approximately in half
- impacts 3 hedgerows (avoids the smaller woodlot outside of the ESA)
- impact on hydrological functions (due to fragmentation of wetland)
- provides adequate traffic service
- provides efficient traffic movements (1 four-way intersection)
- route length 1981 m with feasible engineering design

- 2488 m of potentially usable road frontage for future development opportunities
- revisions to Secondary Plans needed
- requires 5.9 ha
- crosses 9 properties
- 4 houses adjacent to road
- has an estimated cost of $1.5 million; estimated cost of overall road network is $4.6 to $4.9 million.

Preliminary Evaluation of Concepts A, B, and C

Following the preliminary evaluation of the east section of the east-west route alternatives, it was determined that Concept A was the preliminary preferred route. Concept A would have the least impact on the natural environment of the study area including the wetland and the ESA, it would provide a direct link to the Expressway exit ramp and would be the least expensive in comparison. These advantages were found to outweigh the main disadvantage of Concept A, which is an overall road network with two T-intersections rather than one four-way intersection. In the detailed design of the preferred route, refinement could be made to further reduce the impact. For example, the route could be adjusted to the north to avoid the small woodlot west of the ESA.

5.3.1.1 Alternatives East of Kitty Murray Lane

Northern Alignment Above Springbrook Avenue

- avoids the wetland
- no impact on ESA
- impacts hedgerows
- not compatible with draft approved plans of subdivision (Phase 2 Meadowlands)
- potential noise impacts minimal

Southern Alignment Above Springbrook Avenue

- impacts the wetland (crosses wetland)
- no impact on ESA
- impacts hedgerows
- most compatible with draft approved plans of subdivision
- potential for greater noise impacts

Preliminary Evaluation of Alternatives East of Kitty Murray Lane

Either the northern or southern alignment could connect to three possible connection points at Southcote Road (discussed in section 5.3.1.2). Following the preliminary evaluation of the west section of the east-west route alternatives, it was determined that whatever connection was utilized at Southcote Road, a northern option above Springbrook Avenue was preferred, even though it would require changing the Secondary Plans. This northern option was preferred because the wetland and hedgerow would be avoided and it would provide a buffer for the existing residents of Springbrook Avenue.

5.3.1.2 Connections at Southcote Road

Calder Option at Southcote Road

- no impact on Class 3 wetland
- impact on hedgerows
- impact on hydrological functions minimal
- provides adequate traffic service
- provides efficient traffic movements - connects at existing T-intersection, resulting in 1 four-way intersection
- shortest route length (1271 m) with feasible engineering design
- 2502 m of potentially usable road frontage for future development opportunities
- revisions to Secondary Plans needed
- requires 3.8 ha
- crosses 2 properties
- 2 houses adjacent to road
- has an estimated cost of $1.0 million

Middle Option at Southcote Road

- no impact on Class 3 wetland
- impact on hedgerows
- impact on hydrological functions minimal
- provides adequate traffic service
- less efficient in terms of traffic movements (connection creates new T-intersection)
- route length 1283 m with feasible engineering design
- greatest length of potentially usable road frontage for future development opportunities (2524 m)
- revisions to Secondary Plans needed
- requires 3.8 ha
- crosses 2 properties
- 2 houses adjacent to road
- has an estimated cost of $1.0 million

John Frederick Option at Southcote Road

- no impact on Class 3 wetland
- impact on hedgerows
- impact on hydrological functions minimal
- provides adequate traffic service
- provides efficient traffic movements - connects at existing T-intersection, resulting in 1 four-way intersection
- longest route length (1300 m) with feasible engineering design
- shortest length of potentially usable road frontage for future development opportunities (2280 m)
- revisions to Secondary Plans needed
- requires 3.8 ha
- crosses 3 properties
- 2 houses adjacent to road
- has an estimated cost of $1.0 million

Preliminary Evaluation of Southcote Road Connections

A preferred connection at Southcote Road was not identified. A connection to one of the existing roads, either Calder Street or John Frederick Drive, is beneficial from a traffic viewpoint, however, the Middle Option is compatible with Secondary Plans and approved plans of Subdivision.

5.3.2 North-South Alternative Routes

Concept 1 and Highway 53 West Connection

- impact on Class 3 wetland (3 wetland crossings)
- fragments western edge of ESA
- impacts 2 hedgerows
- impact on hydrological functions minimal
- provides adequate traffic service
- less efficient in terms of traffic movements (connection creates new T-intersection)
- route length 2672 m with feasible engineering design
- 4264 m of potentially usable road frontage for future development opportunities
- revisions to Secondary Plans needed
- requires 8.0 ha (acquisition of house and property needed for the right-of-way (ROW), should Glancaster Road be extended south in the future from this alignment to the existing Glancaster Road)
- impacts 4 properties

- 5 houses adjacent to road
- has an estimated cost of $2.1 million (approximately $1.0 million for the connection up to Concept A only); overall road network cost estimated at $4.4 to $4.6 million

Concept 1 and Highway 53 East Connection

- impact on Class 3 wetland (4 wetland crossings)
- fragments western edge of ESA
- impacts 2 hedgerows
- impact on hydrological functions minimal
- provides adequate traffic service
- less efficient in terms of traffic movements (connection creates new T-intersection)
- shortest route length (2660 m) with feasible engineering design
- 4146 m of potentially usable road frontage for future development opportunities
- revisions to Secondary Plans needed
- requires 7.9 ha (acquisition of property needed for the ROW, should Glancaster Road be extended south in the future from this alignment to the existing Glancaster Road)
- impacts 4 properties and a barn foundation
- 5 houses adjacent to road
- has an estimated cost of $2.1 million (approximately $1.0 million for the connection up to Concept A only); overall road network cost estimated at $4.4 to $4.6 million

Concept 1 and Glancaster Connection

- impact on Class 3 wetland (4 wetland crossings)
- fragments western edge of ESA
- impacts 4 hedgerows
- impact on hydrological functions minimal
- provides adequate traffic service
- provides efficient traffic movements - connects at existing T-intersection, resulting in 1 four-way intersection
- route length 2813 m with feasible engineering design
- shortest length of potentially usable road frontage for future development opportunities (3836 m)
- revisions to Secondary Plans needed

- impacts 7 properties; one house will need to be removed
- 6 houses adjacent to road
- has an estimated cost of $2.2 million (approximately $1.1 million for the connection up to Concept A only); overall road network cost estimated at $4.5 to $4.7 million

Concept 2 and Highway 53 West Connection

- impact on Class 3 wetland (extensive area eliminated at the Susan Drive connection)
- avoids most of the ESA (except for a small peripheral area to the west)
- impacts 3 hedgerows
- impact to hydrological functions
- provides adequate traffic service
- less efficient in terms of traffic movements (connection creates new T-intersection)
- route length 2877 m with feasible engineering design
- 5126 m of potentially usable road frontage for future development opportunities
- revisions to Secondary Plans needed
- requires 8.6 ha (acquisition of house and property needed for the ROW, should Glancaster Road be extended south in the future from this alignment to the existing Glancaster Road)
- impacts 4 properties
- 5 houses adjacent to road
- has an estimated cost of $2.2 million (approximately $1.0 million for the connection up to Concept A only); overall road network cost estimated at $4.4 to $4.7 million

Concept 2 and Highway 53 East Connection

- impact on Class 3 wetland (extensive area eliminated at the Susan Drive connection)
- avoids most of the ESA (except for a small peripheral area to the west)
- impacts 3 hedgerows
- impact to hydrological functions
- provides adequate traffic service
- less efficient in terms of traffic movements (connection creates new T-intersection)
- route length 2892 m with feasible engineering design
- 5156 m of potentially usable road frontage for future development opportunities
- revisions to Secondary Plans needed

- requires 8.6 ha (acquisition of house and property needed for the ROW, should Glancaster Road be extended south in the future from this alignment to the existing Glancaster Road)
- impacts 4 properties; and a barn foundation
- 5 houses adjacent to road
- has an estimated cost of \$2.2 million (approximately \$1.0 million for the connection up to Concept A only); overall road network cost estimated at \$4.4 to \$4.7 million

Concept 2 and Glancaster Connection

- impact on Class 3 wetland (extensive area eliminated at the Susan Drive connection)
- avoids most of the ESA (except for a small peripheral area to the west)
- impacts 5 hedgerows
- impact to hydrological functions
- provides adequate traffic service
- provides efficient traffic movements - connects at existing T-intersection, resulting in 1 four-way intersection
- longest route length (3122 m) with feasible engineering design
- greatest length of potentially usable road frontage for future development opportunities (5552 m)
- revisions to Secondary Plans needed
- requires 9.3 ha
- impacts 7 properties; one house will need to be removed
- 6 houses adjacent to road
- has an estimated cost of \$2.4 million (approximately \$1.1 million for the connection up to Concept A only); overall road network cost estimated at \$4.5 to \$4.9 million

Preliminary Evaluation of North-South Alternative Routes

Following the preliminary evaluation of the north-south alternative route alignments, it was determined that Concept 2 and a Highway 53 East Connection was the preferred route. Concept 2 was preferred over Concept 1 because it almost completely avoids the ESA whereas Concept 1 would have significant impact on the ESA. In Figure 5.2, the Susan Drive connection is to Concept 2 is shown to eliminate an area of wetland. This impact can be eliminated when Concept 2 is combined with the preferred east-west route alternative such that the alignment would be revised to cross the wetland, rather than going directly along the wetland.

The Highway 53 East Connection was preferred because the Glancaster connection would remove a small parcel of wetland and dissect a hedgerow. In addition to enable a direct connection with the existing Glancaster Road, a house directly north of the existing Glancaster Road would have to be removed. However, the Highway 53 East Connection would provide adequate opportunity to extend Glancaster Road south in the future.

5.3.3 Summary of the Preliminary Preferred Route

The east-west and north-south evaluations led to a preliminary preferred route. This route is shown in Figure 5.3 and is a combination of Concept A, a northern alignment above Springbrook Avenue, and the Highway 53 East Connection (up to the Concept A extension). This route does not give any initial preference to the westerly connection at Southcote Road or a Susan Drive alternative as it was thought that public input was the main factor to consider with respect to these issues. No particular technical or environmental factor favoured a particular Southcote connection or Susan Drive alternative.

5.4 Review Agency and Public Consultation - Phase 2a

5.4.1 Review Agencies

The Study Team was requested to provide input on the revised evaluation criteria on April 20, 1993. The comments included:

- criteria did not include any measure of water quality;
- consideration should be given to the watermain backfeed to Meadowlands Boulevard including the cost;
- revised assessment criteria are satisfactory; and,
- "connectivity" should be included under the ESA and Land Use categories.

The impact assessment and preliminary evaluation of the revised alternative routes and preliminary preferred route were presented to the Study Team at a meeting on May 26, 1993. Table 5.2 summarizes the comments/issues discussed in connection with the evaluation criteria and preliminary preferred route.

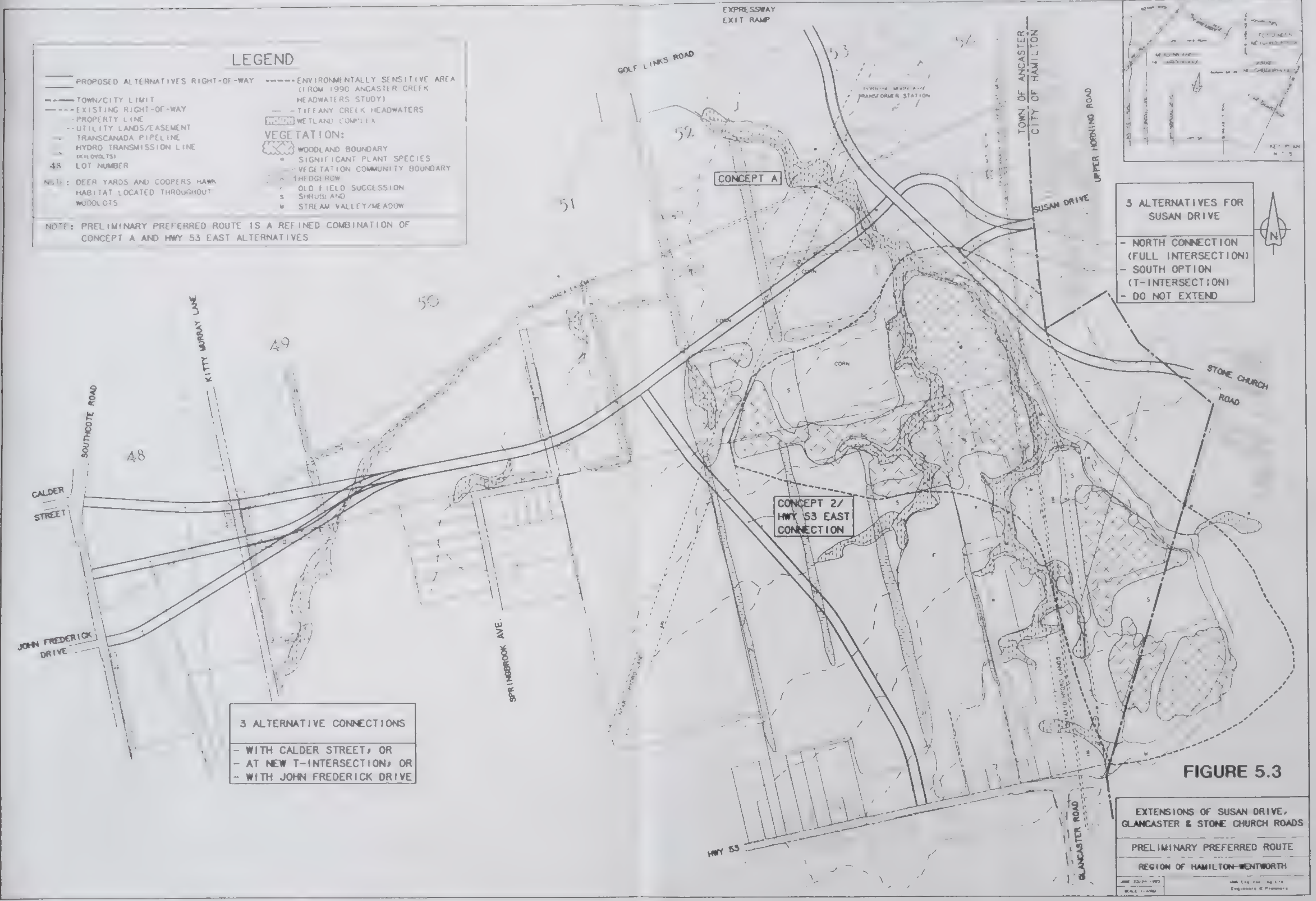

LEGEND
PROPOSED ALTERNATIVES RIGHT-OF-WAY
TOWN/CITY LIMIT
EXISTING RIGHT-OF-WAY
PROPERTY LINE
UTILITY LANDS/EASEMENT
TRANSCANADA PIPELINE
HYDRO TRANSMISSION LINE (KILOVOLTS)
48 LOT NUMBER
NOTE: DEER YARDS AND COOPERS HAWK HABITAT LOCATED THROUGHOUT WOODLOTS
ENVIRONMENTALLY SENSITIVE AREA (FROM 1990 ANCASTER CREEK HEADWATERS STUDY)
TIFFANY CREEK HEADWATERS
WETLAND COMPLEX
VEGETATION:
WOODLAND BOUNDARY
SIGNIFICANT PLANT SPECIES
VEGETATION COMMUNITY BOUNDARY
HEDGEROW
OLD FIELD SUCCESSION
S SHRUBLAND
M STREAM VALLEY/MEADOW
NOTE: PRELIMINARY PREFERRED ROUTE IS A REFINED COMBINATION OF CONCEPT A AND HWY 53 EAST ALTERNATIVES
EXPRESSWAY EXIT RAMP
GOLF LINKS ROAD
TRANSFORMER STATION
TOWN OF ANCASTER
CITY OF HAMILTON
UPPER HORNING ROAD
SUSAN DRIVE
CONCEPT A
3 ALTERNATIVES FOR SUSAN DRIVE
- NORTH CONNECTION (FULL INTERSECTION)
- SOUTH OPTION (T-INTERSECTION)
- DO NOT EXTEND
N
52
51
50
49
48
53
CORN
STONE CHURCH ROAD
KITTY MURRAY LANE
SOUTHCOTE ROAD
CALDER STREET
JOHN FREDERICK DRIVE
SPRINGBROOK AVE.
CONCEPT 2/ HWY 53 EAST CONNECTION
HYDRO LANE
ONTARIO HYDRO LANDS
3 ALTERNATIVE CONNECTIONS
- WITH CALDER STREET; OR
- AT NEW T-INTERSECTION; OR
- WITH JOHN FREDERICK DRIVE
HWY 53
GLANCASTER ROAD

FIGURE 5.3

EXTENSIONS OF SUSAN DRIVE, GLANCASTER & STONE CHURCH ROADS

PRELIMINARY PREFERRED ROUTE

REGION OF HAMILTON-WENTWORTH

TABLE 5.2

PHASE 2a: SUMMARY OF DISCUSSION WITH STUDY TEAM MEMBERS

Agency	Issue	Response/Action Taken
REGIONAL MUNICIPALITY OF HAMILTON-WENTWORTH		
Transportation Services Group (HSR)	• prefer: Concept A, Middle Option, Concept 2/Highway 53 West - route allows the HSR to service developable areas of the community	• no action necessary
Environmental Services	• all routes acceptable	• no action necessary
Local Planning Branch	• prefer: Concept A, Concept 2 with any one of three connections proposed at Highway 53 • opportunities should be provided for bicycle and pedestrian movement in the design of the route • Susan Drive should not become a major east-west route; recommend keeping it short	• opportunities for bicycle and pedestrian movement, length of Susan Drive considered in the evaluation of the alternative routes
Regional Planning Branch	• prefer: Concept A, Concept 2/Highway 53 West - noted that most of the ESA avoided • question whether Glancaster Road extension needed in the long or short term	• Region carrying out a Regional Transportation Study which will identify timing and jurisdiction for Glancaster Road

TABLE 5.2 (cont'd)

PHASE 2a: SUMMARY OF DISCUSSION WITH STUDY TEAM MEMBERS

Agency	Issue	Response/Action Taken
TOWN OF ANCASTER		
Planning Department	• preliminary preferred route satisfactory on a conceptual level - stated that they would prefer ESA to remain intact • Susan Drive extension appears redundant • proposed Southcote Road connections involve changing approved Secondary Plans for the Meadowlands - would like west section of the east-west alternative to follow the approved Plan of Subdivision and Secondary Plan alignment	• consultation with emergency services agencies (Regional Police, Regional Ambulance Services) determined that a Susan Drive extension is not required for the provision of emergency access • draft approved Plan of Subdivision and Secondary Plan alignment considered in the evaluation of alternatives
Engineering Department	• prefer: Concept C - provides better access to the ESA	• evaluation of alternatives took into consideration the alternative that avoided/had the least impact (rather than direct access) on the ESA and wetlands area as much as possible
TOWNSHIP OF GLANBROOK		
Planning Department	• asked that any connection to Highway 53 consider the potential for southerly extensions	• future southerly extension of Glancaster Road considered in the evaluation

TABLE 5.2 (cont'd)

PHASE 2a: SUMMARY OF DISCUSSION WITH STUDY TEAM MEMBERS

Agency	Issue	Response/Action Taken
Ministry of Natural Resources	• proximity of Concept A to Tiffany Creek requires storm water management as a mitigative measure • explained that formal approval of the wetland classification will not be given until evaluation is completed using the finalized third edition of the Wetlands Evaluation System - pointed out that wetland boundaries, as defined in March 1993, will most likely remain unchanged	• storm water management study undertaken to identify potential impacts and to determine appropriate mitigation measures
Hamilton Region Conservation Authority	• supports preliminary preferred route - protects a significant woodlot in the western portion of the ESA	• no action necessary

5.4.2 Public

5.4.2.1 Landowners

By letter on May 7, 1993, principal landowners in the study area were asked to comment on the revised evaluation criteria. A meeting with the landowners was subsequently held on June 16, 1993, to receive their input on the evaluation criteria, the preliminary evaluation, and the preliminary preferred route.

Only one landowner provided written comments on the evaluation criteria. The landowner indicated general agreement with the evaluation criteria. In addition, the landowner pointed out that the final decision on the alignment for the proposed road extensions should reflect a balance between the conflicting requirements of land use compatibility and the natural environment, with cost playing a significant role.

At the meeting, the landowners provided comments on the preliminary preferred route. The Region's response/action to the landowners' comments are included below:

- It was requested that Secondary Planning be carried out at the same time as the Regional road planning.
    - explained that the Town had requested that the Region determine Regional road locations prior to Secondary Planning

- The proposed Calder Street Connection and northern alignment above Springbrook Avenue take into account the subdivision that has draft plan approval.
    - draft plan approvals and land use considerations incorporated as factors in the evaluation

- The northern alignment does not reflect land negotiations for land at its intersection with Meadowlands Boulevard.
- Appears that the small wetland area has determined the alignment of the proposed north-south route.
- Concerns with all of the proposed Stone Church Road alternatives.
    - provided further opportunities for meetings to explain and discuss the wetland boundaries.

5.4.2.2 Public Information Centres - June 23 and 24, 1993

The impact assessment and preliminary evaluation of the alternative route locations were presented to the general public and interested review agencies at the second set of PICs held on June 23 and 24, 1993.

Landowners were notified by letter of the second set of PICs on May 7, 1993, and reminded at the landowners' meeting on June 16, 1993. The Study Team and interested review agencies were notified by letter on June 9, 1993. Members of the public who provided input previously, were invited to the June PICs by letter dated June 9, 1993. Regional Council members were circulated a memorandum on June 14, 1993, notifying them of the second set of PICs.

Project brochures with an invitation to the PICs were mailed to homes within the study area on June 9, 1993. Notice of the PICs was published in the following newspapers:

- Hamilton Spectator, June 12 and 16, 1993;
- Hamilton Mountain News, June 16, 1993; and,
- Ancaster News, June 16, 1993.

Copies of the notification letters, distribution list, project brochures, and newspaper notice are included in Appendix C.

Telephone calls were received following the notification of the PICs. Requests for additional information/Information Centre materials were made, and materials were subsequently sent out.

At these PICs, an Information Package was made available to the general public and interested review agencies, as suggested at the first set of PICs. A copy of the Information Package is included in Appendix C.

About 57 citizens attended the PICs. Completed comment sheets received at and following the second set of PICs are included in Appendix C.

Comments received from interested review agencies and public interest groups were:

Hamilton Hydro
- support a Susan Drive connection because it would create an opportunity to construct service to the Horning Mountain Transformer Station

Ancaster Conserver Society
- support the preliminary preferred route shown
- pleased with the Region's attempts to minimize impacts on the natural environment

Comments received from landowners following the PICs are summarized in Table 5.3.

TABLE 5.3

PHASE 2a: SUMMARY OF RESPONSES TO ISSUES RAISED BY LANDOWNERS FOLLOWING THE JUNE 1993 PUBLIC INFORMATION CENTRES

Issue(s) Raised By Landowner	Response/Action Taken
• proposed route may limit future land use options	• impact on future land uses a factor in the evaluation
• route with design flexibility preferred - prefer Concept C - suggest Concept 1/Highway 53 East connection be shifted westerly so that it is equidistant between two parallel hedgerows - existing plans should be preserved to the greatest extent possible	• roadway shown in the Town's Official Plan did not undergo an EA and provides a general indication of where roads are proposed for that area only • existing plans considered in the evaluation
• unclear in evaluation why Concept A is not more expensive to construct, since it has the longest length and needs the greatest amount of property	• the preferred route network is only marginally longer (together with requiring marginally greater areas of land) than the other alternatives - the Concept A route network requires only the southerly portion of the north-south connection from Stone Church Road to Golf Links Road
• environmental criteria for evaluating route alternatives not measurable, therefore, not possible to assess the relative environmental impact of each route alternative - recommend further detailed analysis between route alternatives before selecting preferred route	• environmental inventories were carried out to identify constraints to the proposed alternatives • explained that environmental methodologies do not make decisions; they show the differences between alternatives where there are a number of complex issues to consider
• scale of mapping provided is not detailed enough to determine the size of land parcels that would be created by the proposed routes	• design details, and therefore, more detailed maps, will be prepared following the selection of the preferred route - general parcel sizes were approximated based on the preliminary design
• questioned the high density designation for a small parcel of land north of the proposed Stone Church Road extension	• Town's Planning Department contacted to verify designations - staff stated there is no policy showing areas will be developed for high density • discussions and meeting held with landowner to address concerns

TABLE 5.3 (cont'd)

PHASE 2a: SUMMARY OF RESPONSES TO ISSUES RAISED BY LANDOWNERS FOLLOWING THE JUNE 1993 PUBLIC INFORMATION CENTRES

Issue(s) Raised By Landowner	Response/Action Taken
• route with greatest degree of flexibility in land use planning while having minimal impact on wetlands and existing private residences should be selected - prefer Concept C, Middle Option at Southcote Road - suggest alternative route close to the proposed Concept 2/Highway 53 East connection	• flexibility for land use planning, impact on wetlands, and impact on existing private residences considered in the evaluation

Many of the public who attended the PICs indicated support for the preliminary preferred route. It was generally expressed that concerns previously articulated regarding traffic and the preservation of the ESA, were addressed by the preliminary preferred route. Other general comments expressed by the public related to the Susan Drive alternatives. Some members of the public indicated a preference for a north connection, while others indicated a preference for a south connection. One resident of Susan Drive expressed strong opposition to any connection.

Table 5.4 summarizes the issues that were raised at and following the PICs along with the Region's response.

5.5 Evaluation of Alternative Route Locations

The evaluation consisted of a narrative description outlining the systematic evaluation of the potential effects and trade-offs (quantitative where possible), as well as a pie-ranking matrix to illustrate the evaluation.

Factors for which there were significant differences in impacts between the alternatives and were thus key in determining the preferred routes were called Critical Determining Factors. These critical determining factors were:

- natural environment (ESA)
- land use (development potential)

Other evaluation factors were not as significant in reaching a decision as the differences between the alternatives were negligible. These Non-Critical Determining Factors were:

•	cost	all costs were similar (within 10% of each other)
•	traffic	all routes meet traffic requirements
•	engineering	all routes possible from technical engineering requirements
•	community	no significant community impacts, no housing to be acquired
•	cultural	no heritage features, archaeological features to be determined for preferred route

Tables 5.5 and 5.6 highlight the critical determining factors for evaluation of the east-west alternatives and the north-south alternatives respectively.

5.6 Selection of Preferred Network

Concept A, as shown in Figure 5.3, remained the preferred network following the public consultation and evaluation. This concept minimizes impacts on the natural environment by avoiding the ESA and the wetlands as much as possible. Development potential was taken into consideration, but the ESA and wetlands were considered more important (as indicated and supported by the Hamilton Region Conservation Authority, the Ontario Ministry of Natural Resources, and members of the general public).

It should be noted that the Town of Ancaster's Official Plan and Secondary Plan shows a route alignment that is different from Concept A. Developers in the area have based various decisions (i.e., property acquisition, land swaps) on this alignment. However, that route location did not undergo an EA and was given as a general indication only of the roads proposed in the area (as indicated by the qualifier under the map in the Official Plan which states that "the road alignment of proposed roadways shown are diagrammatic and may be altered provided that the general intent of this Plan is maintained").

Concept A is the route network that minimizes impacts and allows flexibility through refinement to the preliminary design to further consider the concerns of property developers and also to mitigate against environmental impacts.

5.7 Timing of the Preferred Network

At this point in the study, the timing and need of the various road segments comprising the preferred network (Concept A) was reexamined. The Region is currently undertaking a Regional Transportation Plan (completion anticipated for 1994) that will identify and assess Regional transportation needs and the criteria used to assess the designation of Regional roads. The study will provide the basis for deciding the need for Regional versus Town roads in the Meadowlands. Until this Plan is completed, it was decided that only one part of the preferred network will go forward into design and construction and hence completion of an ESR. The EA process for the remainder of the preferred network will be completed when the jurisdiction and timing of need of each road segment is apparent.

After the decision was made to go forward with the ESR for the immediately required segment of the preferred network, a meeting was held with Ministry of the Environment and Energy staff to discuss the status of the study and to ensure that the process taken was consistent with the requirements of the EA process.

TABLE 5.4

PHASE 2a: RESPONSES TO ISSUES RAISED AT THE JUNE 1993 PUBLIC INFORMATION CENTRES (#2)

Issue Raised	Response/Action Taken
TECHNICAL	
• are proposed road extensions required? - Do Nothing alternative preferred	• approval for the Expressway was received in 1985 - Region currently constructing part of the Expressway (Mountain Section) - Upper Horning Road will be closed - alternative access will still be needed for the Gurnett neighbourhood
• are Regional road connections required at Southcote Road? - access provided by Highway 53, Mohawk Road, and Golf Links Road	• Southcote Road is a Regional road - Regional roads may not be needed - however, development in the Meadowlands will continue, and local road connections may, therefore, be built
• increase in traffic on Southcote Road with a Stone Church Road connection - existing traffic is too much	• explained that traffic on Soutcote Road will continue to increase as the Meadowlands area develops; existing traffic volumes are considered low for a Regional arterial road
• no access to Southcote Road was envisioned when Meadowlands development first approved	• explained that the Town has an approved plan of subdivision for the west end of the Meadowlands area that includes a road connection to Southcote Road
• suggest that Glancaster Road extension (Concept 2/Highway 53 East) be moved northeast - intersects with Ontario Hydro property - quicksand sinkholes also present	• this issue is best dealt with in the next stage of the EA process when the location of the preferred route is refined
• will Springbrook Avenue be part of the proposed road extensions?	• Region will not be using Springbrook Avenue; proposed alternatives are located north of Springbrook Avenue

TABLE 5.4 (cont'd)

PHASE 2a: RESPONSES TO ISSUES RAISED AT THE JUNE 1993 PUBLIC INFORMATION CENTRES (#2)

Issue Raised	Response/Action Taken
Upper Horning Road Closure • will cause an increase in traffic • access to transit routes will be limited • emergency access will be limited	• explained that the issue of the Upper Horning Road closure was discussed with the community in 1992, resulting in Council deciding to uphold the 1985 decision to close the road
Southcote Road Connections Middle Option: T-Intersection • impacts less when compared to either a Calder Street or John Frederick Drive Connection • will cause safety and nuisance (shining headlights, inconvenient access) impacts - residences across the proposed T-intersection may therefore, have lower property values • provides best sight lines Calder Street Connection • most direct route; access to Southcote Road from private driveways will not be affected • concerns for safety related to: - proximity to Highway 403 - sharp curve at Highway 403 bridge - poor sight lines, visibility to the north, unless major regrading undertaken - history of serious car accidents in the area John Frederick Drive Connection • safest place for an intersection • concerns for children's safety - number of school buses stop and turn onto Southcote Road • sight lines limited	• differing opinions on the Southcote Road connections were received; as it turns out, the study did not identify an obvious preferred option - the next stage of the EA process will confirm the preferred connection to Southcote Road

TABLE 5.4 (cont'd)

PHASE 2a: RESPONSES TO ISSUES RAISED AT THE JUNE 1993 PUBLIC INFORMATION CENTRES (#2)

Issue Raised	Response/Action Taken
ENVIRONMENTAL	
• natural environment and wildlife habitat impacts	• explained that the Class EA process ensures that all feasible alternatives are examined - evaluation of alternatives ensures that the best option with minimal environmental impact is selected - pointed out that the Ministry of Natural Resources and the Hamilton Region Conservation Authority involved throughout the planning process and that input from the public is considered prior to decisions being made
• why are roads being built in wetlands but developers cannot build	• explained that Ontario's Wetland Policy Statement says utilities/roads shall be located out of provincially significant wetlands (i.e., Class 1 to 3), and where this is not possible, to minimize impacts through mitigation

PRELIMINARY EVALUATION OF EAST-WEST ROUTE ALTERNATIVES CRITICAL DETERMINING FACTORS

Factors for which there are significant differences in impacts between the alternatives, and thus are key in determining the preferred alternative.

ISSUE	CRITERIA	EAST SECTION*			WEST SECTION*		
		CONCEPT A **	CONCEPT B	CONCEPT C	CALDER OPTION	MIDDLE OPTION	JOHN FREDERICK OPTION
Natural Environment Issues - East West Alternatives							
[illegible]	- Significant biological features - Wetland components - Fisheries	◔ Less features affected	○ Some features affected	○ Some features affected	N*** ◔ Wetland crossing S*** ○ Wetland eliminated	N*** ◔ Wetland crossing S*** ○ Wetland eliminated	N*** ◔ Wetland crossing S*** ○ [illegible]
[illegible] Sensitive Area (ESA)	- ESA integrity	◔ Localized severance	○ ESA core severed	○ ESA core severed	◑ No impact	◑ No impact	◑ No impact
c) Hedgerow/ Other Vegetation	- Significant hedgerow linkage features	○ 3 hedgerows, woodlot affected	○ 3 hedgerows, woodlot affected	◔ 3 hedgerows affectd	N*** ◔ 3 hedgerows S*** ○ 2 hedgerows	N*** ◔ 2 hedgerows S*** ○ 1 hedgerows	N*** ◔ 3 hedgerows S*** ○ 2 hedgerows
Traffic Issues - East West Alternatives							
a) Traffic Service	Provision of adequate traffic service	◕ Two T intersections	● One 4 way intersection	● One 4 way intersection	● At existing intersection	◕ New T-intersection	● At existing intersection
Engineering Issues - East West Alternatives							
a) Design	- Route length - Percentage of route on curve - Greater than 3% vertical grade - Compatibility with other road extensions	◕ Feasible design	◕ Feasible design	◑ Feasible design	● Feasible design, most direct	◕ Feasible design	◕ Feasible design
Land Use Issues - East West Alternatives							
d) Property	- Area required - Dwellings and properties directly affected	◔ 6 properties within right-of-way	◔ 6 properties within right-of-way	○ 9 properties within right-of-way	◑ 2 properties within right-of-way	◑ 2 properties within right-of way	◔ 3 properties within right-of-way
Cost - East West Alternatives							
a) Cost	- Estimated cost of east-west route alternative	◔ $ 2.4 million****	◔ $ 1.4 million	◔ $ 1.5 million	◔ $ 1.0 million	◔ $ 1.0 million	◔ $ 1.0 million
	- Estimated cost of overall route network	$ 4.4 - 4.5 million	$ 4.5 - 4.8 million	$ 4.6 - 4. 9million	-	-	-

LEGEND:

● Positive Impact
◕ ↑
◑ Impact Can Be Mitigated / No Impact
◔ ↓
○ Negative Impact

* East section and west section are evaluated separately; any of the three east options could potentially connect with any of the three west options

** Concept A is a unique east-west route alternative; it includes a northern connection from Stone Church Road to Golf Links Road

*** Refers to northern and southern options above Springbrook Drive

**** $1.25 million for East Section;
$1.15 million for northern connection from Stone Church Road to Golf Links Road.

Although Concept A has a greater estimated cost in this evaluation, the overall cost of the resulting route network is comparable since it would require only the southern portion of the north-south connection

TABLE 5.5

PRELIMINARY EVALUATION OF NORTH-SOUTH ROUTE ALTERNATIVES
CRITICAL DETERMINING FACTORS

Factors for which there are significant differences in impacts between the alternatives, and thus are key in determining the preferred alternative.

ISSUE	CRITERIA	CONCEPT 1 *			CONCEPT 2 *		
		HWY 53 WEST CONNECTION	HWY 53 EAST CONNECTION	GLANCASTER CONNECTION	HWY 53 WEST CONNECTION	HWY 53 EAST CONNECTION	GLANCASTER CONNECTION
Natural Environment Issues - North South Alternatives							
a) Class 3 Wetland	- Significant biological features - Wetland components Fisheries	◔ Less features affected	◔ Less features affected	◔ Less features affected	○ Some features affected	○ Some features affected	○ [illegible]
b. Environmentally Sensitive Area (ESA)	ESA integrity	○ ESA severed	○ ESA severed	○ ESA severed	◔ Peripheral effect	◔ Peripheral effect	◔ Peripheral effect
c) Hedgerow/ Other Vegetation	- Significant hedgerow linkage features	◔ 2 hedgerows affected	◔ 2 hedgerows affected	○ 4 hedgerows affected	◔ 3 hedgerows affected	◔ 3 hedgerows affected	○ 5 hedgerows affected
Traffic Issues - North South Alternatives							
d) Future Glancaster Road Extension	- Ability to extend Glancaster Road south of Highway 53	○ House and right-of-way required	◔ Right-of-way required	● Existing road	○ House and right-of-way required	◔ Right-of-way required	● Existing road
Engineering Issues - North South Alternatives							
a) Design	- Route length - Percentage of route on curve - Greater than 3% vertical grade - Compatibility with other road extensions	◕ Feasible design, shortest route	◕ Feasible design, shortest route	◑ Feasible design	◑ Feasible design	◑ Feasible design	◔ Feasible design, longest route
Land Use Issues - North South Alternatives							
d) Property	- Area required - Dwellings and properties directly affected	◔ 4 properties within right-of-way	◔ 4 properties within right-of-way	○ 7 properties within right-of-way	◔ 4 properties within right-of-way	◔ 4 properties within right-of-way	○ 7 properties within right-of-way
Cost - North South Alternatives							
a) Cost	- Estimated cost of north-south route alternative	◔ $ 2 1 million**	◔ $ 2.1 million**	◔ $ 2 2 million***	◔ $ 2 2 million**	◔ $ 2 2 million**	○ $ 2 4 million***
	- Estimated cost of overall route network	$ 4 4 - 4.6 million	$ 4 4 - 4.6 million	$ 4.5 - 4.7 million	$ 4 4 - 4.7 million	$ 4.4 - 4.7 million	$ 4.5 - 4.9 million

* Both Concept 1 and Concept 2 include a Susan Drive connection.

** Estimated cost of north-south connection with Concept A is $1 0 million

*** Estimated cost of north-south connection with Concept A is $1 1 million

LEGEND:

- ● Positive Impact
- ◕ ↑
- ◑ Impact Can Be Mitigated / No Impact
- ◔ ↓
- ○ Negative Impact

TABLE 5.6

Timing of Preferred Scheme

The extension of Stone Church Road to Golf Links Road (Concept A) interchange is the preferred scheme at this time. The extension is a very direct road and is a logical extension of a Regional Road. This link is required immediately as Upper Horning Road is to be closed in 1995. The timing of the preferred scheme is outlined below.

- property acquisition - 1993/1994
- detailed design - 1994
- construction - 1995

Deferred Roadways

The EA process for the remainder of the preferred network will be completed when the jurisdiction and timing of need is apparent (which will become more clear upon completion of the Regional Transportation Plan). It should be noted that there is no immediate need to establish this part of the road network in the Meadowlands.

Finalization of the remainder of the preferred network has also been deferred at this time because the Stone Church Road to Golf Links Road interchange link does not require road extensions to Southcote Road or Highway 53 (at this time). It is preferable to develop those extensions, whether they are ultimately local or Regional roads, during the Secondary Planning process and further EA study.

The Susan Drive extension has been dropped from this study because Susan Drive is not required as part of the Regional road network for emergency access. In addition, Susan Drive is a local road, whereas the extension of Stone Church Road to Golf Links Road interchange is a logical extension of a Regional road. There is no Regional need for Susan Drive, however, the Town of Ancaster may reconsider this issue and wish to consider extending Susan Drive as a local road in the future.

Summary of Timing of Network

The alignment for the remainder of the network will be refined after the Region has completed the Transportation Plan. If it is determined that the remainder of the network falls within the Regional road system, the Region will finalize the network in conjunction with the development of a Secondary Plan to be developed by the Town of Ancaster.

6.0 ALTERNATIVE ROADWAY DESIGNS

6.1 Alternative Roadway Designs

The study considered preliminary design options for the Stone Church Road Extension to Golf Links Road only, for the reasons described in Section 5.7.

There are no preliminary roadway design alternatives for this link due to the constraints on both sides of the proposed roadway. The road must:

- not interfere with existing housing to the east (residences on Elodia Court);
- be directed away from the ESA and wetland (as much as possible) on the west side of the road; and,
- avoid the Hydro towers.

The provisional route alignment (Figure 5.3) as presented previously in Section 5.0, satisfies these criteria and minimizes impacts. Any significant shift in the horizontal alignment would begin to impact on either the ESA and wetlands area, Hydro tower, and/or the nearby residences. The alignment can therefore be considered close to optimum, with minor refinements possible only (see 6.3 below).

6.2 Review Agency and Public Consultation - Phase 3

6.2.1 Review Agencies

No further comments were received from review agencies or the Study Team at this stage.

6.2.2 Public

6.2.2.1 Landowners

A meeting with landowners was held on September 21, 1993, to update them regarding the status of the project. Copies of the PIC Information Package materials were provided to the landowners. Landowner comments on the preferred preliminary road design and the Region's responses/follow-up actions are provided in Table 6.1.

6.2.2.2 Public Information Centres - September 28 and 29, 1993

The preferred preliminary road design and proposed mitigation measures were presented to the general public and interested review agencies at the third set of PICs held on September 28 and 29, 1993.

The Study Team, interested review agencies, landowners, and members of the public who previously expressed interest in this project, were invited by letter dated September 20, 1993. A memo regarding the third set of PICs was again circulated to Regional Council members in September 1993.

Project brochures with an invitation to the PICs were mailed to Ancaster residents in the Meadowlands and vicinity and to homes in the Hamilton neighbourhoods of Gurnett, Fessenden and part of Gilkson. Notice of the PICs was published in the:

- Hamilton Spectator, September 18 and 22, 1993;
- Hamilton Mountain News, September 22, 1993; and,
- Ancaster News, September 22, 1993.

Copies of the notification letters, distribution list, project brochures, and newspaper notice are included in Appendix D.

An outline of the project's history, as well as Information Packages, were provided at the third set of PICs for the general public and interested review agencies. Copies of the Project History Outline and Information Package are included in Appendix D.

The PICs were attended by approximately 63 citizens. Generally, issues raised by the public at the PICs were dealt with on a one-on-one basis. Region and consultant staff were present to discuss any concerns the public may have had. In addition written comments were answered by letter and/or telephone conversations or follow-up meetings. Appendix D contains the completed comment sheets. Table 6.2 summarizes the issues raised at and following the third set of PICs, along with the Region's responses/follow-up actions.

6.3 Finalization of Preferred Preliminary Design/Additional Public Contact

Following receipt of the input from the general public and landowners, and consultation with interested review agencies, overall support for the preferred preliminary design was confirmed.

Notwithstanding the above, residents of Elodia Court subsequently raised concerns via their ward Councillor. During this stage of the process, the residents felt that their

TABLE 6.1

PHASE 3: RESPONSES TO ISSUES RAISED BY LANDOWNERS

Issue Raised	Response/Action Taken
• does not agree with the Class EA process carried out - appears that the EA for the road network turned into an EA for one road	• Class EA study carried out on the network as a whole • explained that evaluation of all the route alternatives resulted in a preferred network that had the least impact • Region has decided only one part of the preferred network will be implemented • explained that the ESR will document the planning and decision-making process followed for the entire road network, but will seek approval for only one part of the preferred network • remainder of the preferred network will complete the EA process when the jurisdiction and timing of need is apparent (i.e., completion of a Regional Transportation Plan) • suggested further meetings be held to discuss concerns • staff from the MOEE, EA Branch provided advice on this issue
• preferred design should consider possible future land uses • requested changes to minimize the size of unusable land parcels created by severing Ontario Hydro's property and to maximize the development potential on the east side of the preferred alignment - move alignment further west - move proposed storm water retention pond to the west side	• meeting held to discuss concerns • Region to consider requests in consultation with Ontario Hydro, the Ministry of Natural Resources, and the Hamilton Region Conservation Authority - explained that the proposed design changes will impact both Ontario Hydro's tower facility and the wetland area - rationale for the storm water retention pond location is to meet the requirement of Ontario's Wetland Policy Statement (no direct discharge permitted to provincially significant wetlands and control of storm water quality)
• request further information on the location of the road in relation to property owned	• Information Package materials and minutes of meetings with landowners sent out • Region telephoned landowner to ask if there were concerns with the preferred design - landowner responded that the proposed road does not affect their property and, therefore, do not have concerns

TABLE 6.2

PHASE 3: RESPONSES TO ISSUES RAISED AT THE SEPTEMBER 1993 PUBLIC INFORMATION CENTRES (#3)

Issue Raised	Response/Action Taken
SOCIAL • proximity of Stone Church Road to residents' property will lead to: - decrease in property values - increase in air and noise pollution - visual impacts	• explained that locations for the proposed Stone Church Road extension alternatives lie in the same general area in relation to the private residence and are constrained by the hydro transmission towers and wetlands area • noise analysis carried out; indicated that noise impacts would be minimal (i.e., below MOEE guidelines) • invited opportunities to meet with residents on a one-on-one basis to discuss ways to address concerns - no responses received for meetings
LAND USE • type of future development behind properties on Elodia Court	• explained that the area behind residences on Elodia Court are designated for residential purposes in the Town's Secondary Plan for the Meadowlands - future development conditional upon 1) a detailed secondary plan to determine the road layout and residential densities; and, 2) the preparation of an environmental impact statement
ENVIRONMENTAL • maintain integrity of wetlands area in the Meadowlands	• pointed out that the natural lands in the Meadowlands area are privately owned and have been designated for residential and commercial development in the future • Region shares concern about impacts to the natural environment - Class EA study carried out to determine the need for roads and where roads should be constructed to reduce/avoid impacts to the natural environment - measures to maintain the integrity will be refined in consultation with the Ministry of Natural Resources and the Hamilton Region Conservation Authority

TABLE 6.2 (cont'd)

PHASE 3: RESPONSES TO ISSUES RAISED AT THE SEPTEMBER 1993 PUBLIC INFORMATION CENTRES (#3)

Issue Raised	Response/Action Taken
TECHNICAL	
• support proposed Stone Church Road extension to Golf Links Road - should be four-lane road immediately; if not, then extra turning lanes should be provided	• no action required
• disagreement with need for closure of Upper Horning Road	• explained that the issue of the Upper Horning Road closure was discussed with the community in 1992, resulting in Council deciding to uphold the 1985 decision to close the road
• increase in traffic volume/noise - on Upper Horning Road	• proposed Stone Church Road extension will provide an alternative route for vehicles currently using Upper Horning Road as a through road
- at proposed intersection of Stone Church Road and Omni Boulevard	• explained that the net change in traffic volumes will be minor as: 1. areas east of Upper Paradise Road and south of Stone Church Road will no longer use Omni Boulevard to access Upper Horning Road and Highway 403; instead, the proposed Stone Church Road extension to Golf Links Road will be used 2. residents in the Gurnett neighbourhood (who currently go north on Upper Horning Road to get to Highway 403) will use Omni Boulevard to get to the proposed Stone Church Road extension 3. a left turn lane will be provided for traffic turning into Omni Boulevard
• Susan Drive extensions previously considered a priority in relieving traffic on Upper Horning Road	• explained that Susan Drive was considered in the Class EA process in order to provide adequate emergency services, although it is not a Regional road • explained that consultation with emergency services agencies indicated that a Susan Drive extension is not required for emergency response

TABLE 6.2 (cont'd)

PHASE 3: RESPONSES TO ISSUES RAISED AT THE SEPTEMBER 1993 PUBLIC INFORMATION CENTRES (#3)

Issue Raised	Response/Action Taken
• request information on future water and sewer servicing	• referred to the Region's Environmental Services Department
• why is Golf Links Road closed at Upper Horning Road?	• Expressway to be built in the area; therefore, it is not possible to realign Golf Links Road to maintain the connection to Upper Horning Road
• future of: - proposed extension of Stone Church Road to Southcote Road - proposed extension to Glancaster Road	• explained how the Region intends to proceed with road development in the Meadowlands - in July 1993, it was decided to defer approval for the preferred network (Concept A) until completion of a Regional Transportation Plan - should a Regional road network in the Meadowlands area be required, including the connection at Southcote Road, then the EA for Concept A will continue; otherwise, the Town has the option of using the Region's recommended preferred network, or, developing their own network

Note: Further consultation was subsequently carried out with Elodia Court residents near the end of Phase 3, during the finalization of the preferred preliminary design (see Section 6.3).

concerns were not being addressed and that notification of the project was inadequate. The concerns raised were the potential noise, pollution, and visual impacts related to the extension of Stone Church Road to Golf Links Road.

The Region acknowledged that these issues were raised previously by some of the Elodia Court residents who attended the previous PICs (see Table 6.2). However, the Region pointed out that all concerns raised were responded to individually by letter dated November 8, 1993 (see Appendix D). The Region also agreed to meet one-on-one with the Elodia Court residents to try to address their concerns.

In a meeting held with a local Councillor and a resident of Elodia Court on January 6, 1994, Regional staff stated that they will examine the feasibility of screening the proposed road extension through the use of landscaping to address the concern about potential visual impacts. A summary of the consultation process undertaken with the general public was explained, as well as documented in a letter to the Elodia Court resident dated January 6, 1994 (see Appendix D). The Region reiterated that meetings with residents will still be held should residents want to discuss concerns and the Region will consider incorporating changes to the project, if possible.

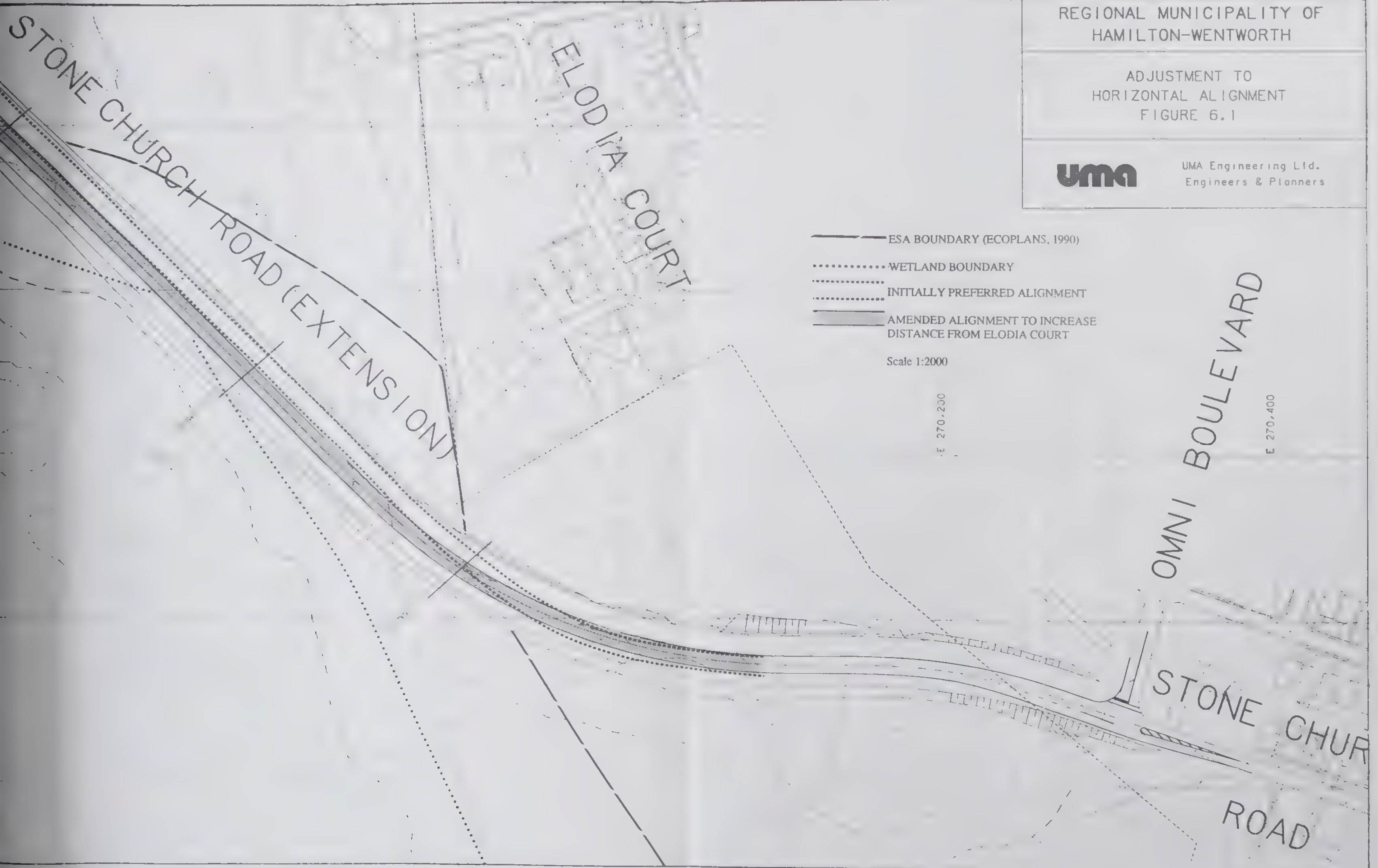
A further meeting was held on February 1, 1994 to discuss the preferred alignment of Stone Church Road. This meeting, was attended by the Roads Department staff, the two ward Councillors and residents of Elodia Court. Comments were received with respect to impacts on noise, aesthetics, property values, engineering and the ESA. The minutes of this meeting (see Appendix D) reflect the comments in more detail.

In order to further mitigate against potential impacts on the Elodia Court homes (approximately 80 metres from the proposed roadway), Regional staff committed to investigating further a possible shift in the horizontal alignment of the roadway away from the homes. It was subsequently found that a 10 to 20 metre shift is possible without impacting on the wetlands or ESA. This shift in alignment is shown in Figure 6.1. At this distance away from the homes the noise impact is virtually unnoticeable (see Section 7.1.5) and the visual impact can be effectively mitigated with landscaping. While some residents were satisfied with this compromise, one or two expressed a continuing opposition to a road being constructed near to their home regardless of the actual impacts or mitigation.

6.4 Filing of the ESR

This ESR will be filed with the Clerk's Offices of both the Region of Hamilton-Wentworth and the Town of Ancaster. Review copies will be available at the Clerk's Offices, the City of Hamilton Central Library and Terryberry Branch and the Ancaster Public Library. The general public will be notified of the completion and filing of this ESR by newspaper notices in the Hamilton Spectator, Hamilton Mountain News, and the Ancaster News. Direct notice will be made to all potentially affected review agencies and to those individuals who previously expressed interest in or asked to be kept informed of the status of the project. A review period of not less than thirty (30) days will be provided, during which comments will be received from interested parties, review agencies, and the public.

Concerns raised during the review period will be addressed by the Region. Any changes necessary will be documented as an addendum to the ESR, if appropriate. Should significant concerns remain unresolved, then a request can be made to the Minister of Environment and Energy to have the project bumped-up to an Individual EA. If there are no bump-up requests or outstanding issues, then the project may proceed to the final phase of the Class EA process, which includes detailed design and construction.


STONE CHURCH ROAD (EXTENSION)
ELODIA COURT
OMNI BOULEVARD
STONE CHUR
ROAD
E 270,200
E 270,400
ESA BOUNDARY (ECOPLANS, 1990)
WETLAND BOUNDARY
INITIALLY PREFERRED ALIGNMENT
AMENDED ALIGNMENT TO INCREASE DISTANCE FROM ELODIA COURT
Scale 1:2000

REGIONAL MUNICIPALITY OF
HAMILTON-WENTWORTH

ADJUSTMENT TO
HORIZONTAL ALIGNMENT
FIGURE 6.1

UMA Engineering Ltd.
Engineers & Planners

7.0 SELECTED DESIGN AND MONITORING

The purpose of this section is to describe the project and related engineering and environmental concerns.

7.1 Selected Design

Near term

The selected design for the extension of Stone Church Road is shown in Figure 7.1 (contained in back pocket). This alignment reflects the shift in horizontal alignment made to address the concerns of Elodia Court residents.

To replace the Old Golf Links Road intersection with Golf Links Road, Old Golf Links Road will be reconstructed to connect at Stone Church Road approximately 200 m southeast of the existing Golf Links Road/Stone Church Road intersection. Old Golf Links Road will retain its existing characteristics as a two lane rural cross-section (ditches and gravel shoulders).

In accordance with Town of Ancaster development policies, the extension of Stone Church Road will have an urban cross-section (curbs and gutters). The 200 m section of the new roadway from Golf Links Road to the new intersection at Old Golf Links Road will be a four lane road. The 1.2 km section of new roadway between Old Golf Links Road to its connection at Stone Church Road will be a two lane road.

The ROW width for the roadway will be 30 m from Golf Links Road to the Hydro corridor. It will then reduce to a 26 m ROW in order to match the existing 26 m ROW for Stone Church Road.

A preliminary cost estimate for the construction of the road is $1.3 million. This estimate will be refined during the detail design phase.

Ultimate

In the design and assessment of impacts and mitigation, allowance has been made for the following ultimate configuration:

- 5 lanes between Golf Links Road and the future road connecting into the Meadowlands; and
- 3 lanes (local widenings for left turns) between the future road connecting into the Meadowlands and the existing Stone Church Road.

The Town of Ancaster is responsible for providing sidewalks and illumination. It is not expected that the Town of Ancaster will implement these along with the construction of the road. The roadway cross-section allows for the provision of bicycle lanes.

The HSR has requested that a bus recovery point be incorporated into the final design of the road extension. This issue will be dealt with during the detail design phase.

7.1.1 Watermain

A 400 mm watermain will be included along the whole length of the Stone Church Road extension.

7.1.2 Drainage and Stormwater Management

A drainage scheme has been developed for a volume of approximately 550 m^3, and to detain the runoff for 24 hours. The facility will be designed to treat the runoff from the storm sewers. An overflow weir will be constructed to allow runoff from extreme events to spill out of the pond safely.

The ditch on the east side will have a slight berm on the uphill side to divert runoff from the external area and prevent it from entering the collection and treatment system for the road. It is intended that several cross-road culverts be installed to maintain existing surface drainage to the wetland. The Town of Ancaster has asked the Region to look at alternative designs for the culvert crossings. Discussions with the Town and Conservation Authority will be undertaken during the detail design phase.

The proposed cross-section, will have drainage provided by a storm sewer. One sewer from each end of the road will collect runoff and discharge it to the treatment facility. The facility will have a volume of approximately 650 m^3. A control maintenance hole will be constructed to divert excess runoff away from the facility, preventing the pond from overtopping. Through the wetlands area, the boulevard of the road should be graded away from the road to minimize the amount of water entering the system.

A complete drainage report has been prepared and bound under separate cover, and submitted to the Ontario Ministry of Natural Resources and the Hamilton Region Conservation Authority for their review.

7.1.3 Utilities

Three Ontario Hydro transmission lines on steel towers currently cross the proposed road. One of the three towers is close to the ROW, but construction of the road extension should not affect their operation. A fourth line on wooden poles crosses the proposed roadway. One of the wooden poles falls within the ROW and will need to be relocated. Hydro's future plans include abandoning the wooden poles. Brief discussions were held with Ontario Hydro staff. It was thought that the proposed roadway poses no problems to the Hydro facilities.

There is a buried TransCanada Pipeline crossing the proposed ROW. Adequacy of protection for the pipeline will be determined and accommodated in the detailed design.

Bell Canada has an easement crossing the proposed road.

7.1.4 Traffic Control Devices

The existing signal heads at the Golf Links Road/Old Golf Links Road intersection will have to be relocated to allow for the new configuration of the Golf Links Road/Stone Church Road intersection.

The new road connecting Old Golf Links Road at Stone Church Road will be controlled by a stop sign for westbound traffic on Old Golf Links Road.

Omni Boulevard southbound will be controlled with a stop sign at Stone Church Road. A left turn lane will be provided eastbound on Stone Church Road to northbound on Omni Boulevard.

7.1.5 Noise Impact Mitigation

There are three homes at the end of the cul-de-sac of Elodia Court about 80 metres away from the roadway. Other homes in Elodia Court are further away. Calculations of future noise levels at the nearest home were made using MOEE's Noise Assessment and Systems Support Model (Stamson 4.1). The projected noise levels are 50.6 dBA (day) and 46.8 dBA (night) which are well within MOEE requirements. Therefore, no mitigation is required under MOEE legislation. This projected outside noise level is somewhere between that of a general office and a quiet living room.

However, during the detailed design, the Region will involve the residents and appropriate staff in the development of buffering through landscaping and/or berms.

7.2 Timing of Construction

Construction of the Stone Church Road extension is expected to commence in the Spring of 1995. Construction will take approximately six months to complete. This includes the time necessary to complete further archeological investigations.

7.3 Summary of Potential Impacts of the Selected Design and Mitigating Measures

The potential impacts identified during the various stages of the project and the mitigating measures incorporated into the design or construction package, are summarized in Table 7.1, 7.2 and 7.3 (prior to, during and post -construction).

7.4 Operation and Maintenance

As the recommended roadway will become part of the Regional Road Network it will be maintained in accordance with Regional policies.

7.5 Monitoring

The proposed project has been found to have some potential impacts; however, appropriate mitigation measures can minimize these impacts.

A construction monitoring program will be implemented to ensure compliance with all contractual agreements regarding the construction practices specified for the project, and to assess the overall performance and effectiveness of the required environmental construction practices in the field. The general contents of a project monitoring and field inspection report are included in the MEA Environmental Construction Guidelines for Municipal Road, Sewage, and Water Projects (1987).

The Region, utilizing Provincial and Regional standards and procedures, will ensure that this project is constructed as specified in the contract documents. Monitoring will proceed according to the normal inspection practices of the Consultant and the Region. The Region has a two year monitoring clause in its construction agreements to ensure the contractor has complied with all specifications.

TABLE 7.1: MITIGATION - PRE-CONSTRUCTION

IMPACT	MITIGATIVE MEASURE
VEGETATION *	
Loss of vegetation.	Limit ROW clearing to areas of construction 15 m plus on either side of centreline or to the grading limit.
Habitat of significant plant species potentially disturbed.	Stake and walk final easement in summer season to confirm specific habitat areas and avoid these areas wherever possible. Identify revegetation need. Use fencing to define easement and minimize work easement width in the area. Protection from construction activities required (e.g., snow fencing). Seedbank from these successional areas to be stored separately from the general topsoil stockpiles and used for restoration purposes (work specifications to be included in the detailed design of the roadway).
DRAINAGE (Water Quantity & Quality)	
Road creates water runoff from storm event. Greater volume of water entering Tiffany Creek and the wetland system.	Storm sewer to be installed from each end of the road to collect runoff and discharge it to a central treatment facility (an extended detention pond) located on the west side of the road. Water flow and quality controlled by road side swales. Grade boulevard of the road away from the road to minimize the amount of water entering the system.
Potential overtopping of retention pond.	Construct a control maintenance hole to divert excess runoff away from the central treatment facility.
Maintenance of overland flow of water to wetland and Tiffany Creek.	Install a number of 300 mm culverts to provide cross road drainage.

* Mitigating measures for vegetation to be finalized in conjunction with the MNR and the Hamilton Region Conservation Authority

TABLE 7.1: MITIGATION - PRE-CONSTRUCTION

IMPACT	MITIGATIVE MEASURE
EROSION	
Water quality of Tiffany Creek affected due to storm water runoff.	Areas with high erosion potential and severe drainage constraints to be located and avoided where possible. Interim drainage system (ditches) to be dug and hydro seeded prior to construction. Construct extended detention pond to intercept sediment loads from construction site and roadway, and discharge runoff (through a culvert and a channel lined with rip rap) at a controlled rate.
PROPERTY IMPACTS	
Secondary plans require revisions.	Further study needed by the Town of Ancaster.
Property required from Ontario Hydro and landowners.	Land to be purchased or easement obtained for right-of-way, and temporary easements within adjacent grading limits.
ARCHAEOLOGICAL RESOURCES	
Potential for archaeological finds.	Further surveys, excavation and documentation of any significant finds after clearing but prior to construction.

TABLE 7.1: MITIGATION - PRE-CONSTRUCTION

IMPACT	MITIGATIVE MEASURE
NOISE	
Potential traffic noise on Stone Church Road extension.	MOEE's Noise Assessment and Systems Support model (Stamson 4.1) used to assess noise levels for projected traffic on Stone Church Road. The projected noise level for the closest house to the road (80 m) were 50.6 dBA (day) and 46.8 dBA (night), which are well within MOEE requirements, therefore, no mitigative measures are required.
Decrease in noise levels adjacent to Upper Horning Road.	No mitigative measures required.
ONTARIO HYDRO	
Potential relocation or protection required.	Co-ordination with utility during design stage.
BELL CANADA	
Potential relocation or protection required.	Co-ordination with utility during design stage.
TRANSCANADA PIPELINE	
Potential relocation or protection required.	Co-ordination with utility during design stage.
COST	
Property.	Region to purchase right-of-way.
Utility relocations.	Region to negotiate cost with utilities.
Construction.	Region to pursue Provincial subsidy along with programming within their own roads budget.

TABLE 7.2: MITIGATION DURING CONSTRUCTION

IMPACT	MITIGATIVE MEASURE
NOISE	
Increase in noise levels.	Contractor shall adhere to all applicable by-laws of the City of Hamilton and the Town of Ancaster.
IMPORTED FILL	Region will have all necessary fill available from the Red Hill Creek Expressway construction programme.
DISPOSAL OF DEBRIS	Provision for collection and disposal of waste construction materials and debris at an approved landfill.
EROSION CONTROL	
Sediment eroded from the construction site.	Preparation and implementation of erosion control measures as part of the contract specifications. Use of sedimentation control measures such as check dams and enviro-fencing at regular intervals in ditches. Remove sediment from detention pond prior to the operation of the road.
Minimize erosion of newly exposed cut and fill slopes and ditches.	Preferably using bioengineering methods, vegetative stabilization including: -Short term (seeding) -Long term (shrubs, trees, ground cover) Physical stabilization using rip-rap etc. where vegetative stabilization a problem to establish.

TABLE 7.2: MITIGATION DURING CONSTRUCTION

IMPACT	MITIGATIVE MEASURE
PROTECTION OF ADJACENT PROPERTIES	
Minimize impacts to adjacent properties.	The contractor will not enter or occupy with crews, equipment or materials, any lands other than Regional lands, and the easements shown on the project drawings, unless formal consent has been received and approved from the proper parties.
PEDESTRIAN MOVEMENTS	
Reduction in pedestrian safety at Stone Church/Golf Links and Stone Church/Omni intersections.	Provide safe passage at Stone Church/Golf Links and Stone Church/Omni intersections. Employ standard construction safety practices according to Ontario Regulation 213/91 (Construction Projects).
ARCHAEOLOGICAL RESOURCES	
Minimize impacts to archaeological resources.	Notify the Regional Archaeologist from MCC if any resources are uncovered during construction that were not identified and excavated/documented during the pre-construction survey.
AIR QUALITY	
Reduction in air quality due to dust.	Water and calcium chloride to be used during construction.
Reduction in air quality due to dust and/or equipment.	Compliance with City of Hamilton and Town of Ancaster by-laws for dust control and emission
VEHICLE TRAFFIC	
Disruption of ambulance, police, fire and other vehicles.	No disruption because no existing roads closed until construction of Stone Church Road complete. No detours are anticipated.

TABLE 7.3: MITIGATION POST CONSTRUCTION

IMPACT	MITIGATIVE MEASURE
VEGETATION Area of ESA and two adjacent wetland units slightly reduced.	Revegetation plan to be implemented.
AESTHETICS Views altered for residents along Elodia Court.	Provide roadway landscaping on east/north side of road to reduce the view of the road.
TRAFFIC Traffic congestion eased on Upper Horning Road.	No mitigative measures required.

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